

Organizing Work-related Learning Projects

A Network Approach

Rob F. Poell

Leerprojecten in het werk organiseren

Een benadering van leren in netwerken

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**Organizing Work-related Learning Projects:
A Network Approach**

***Leerprojecten in het werk organiseren:
Een benadering van leren in netwerken***

Een wetenschappelijke proeve op het gebied
van de Sociale Wetenschappen

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Preface

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Chapter 1. Organizing Work-related Learning

This thesis deals with two questions pervading the disciplines of organization development, continuing professional development, corporate education, and human resources development. First, how are learning and work related? Second, how is work-related learning organized? In order to shed light on these questions, a concept of work-related learning projects is developed in this thesis using a network perspective on organization(s).

This introductory chapter aims to set the stage for the five studies that constitute Chapters 2 through 6. First, this chapter presents an overview of some current issues in the field of work-related learning, in as far as they provide a relevant background for the research theme to be explored at the organizational level. Second, the developments in the field that have thus been described are criticized for being too narrow-focused in several respects. Third, a frame of reference offered by the learning-network theory (Van der Krogt, 1995) is presented to establish a more multi-faceted picture of organizing learning in work contexts. Fourth, the network perspective is applied to the concept of work-related learning projects. This results in a statement of the problem and the research questions investigated in this thesis. To conclude the first chapter, the studies represented in the core five chapters that follow are briefly introduced.

1.1 Current Issues in Organizing Work-related Learning

1.1.1 The Increasing Importance of Learning for Organizations

The field of learning in work organizations is changing at a steady pace. On the one hand, this is due to the rapid changes in work and in the way work is organized. Organizations frequently call upon their learning systems to enable such changes. For instance, management can introduce new employee development schemes or structured on-the-job training programs to accompany technological innovations. On the other hand, learning systems also have a dynamics of their own, independent of work changes. For instance, by benefiting from the work experience of their colleagues employees can learn to work more efficiently, which has an impact on the way they organize their jobs.

One overarching conclusion that everyone in the field seems to support, is the claim that learning becomes more and more important for the survival of present-day organizations. Exactly what is meant by this assertion remains subject to different interpretations. Some believe that organizations as such are capable of learning, by improving the communication between its members (Argyris & Schon, 1978) or by disseminating new knowledge among all employees. Knowledge has come to be regarded as a key asset of employees, their ability to readily acquire and use it a core competence. From the organizational point of view, creating and sharing new knowledge is crucial for innovation processes (Nonaka & Takeuchi, 1995, Ayas, 1996b). Others would rather say every organization learns if it manages to survive in whatever way for a longer period of time (Wijnhoven, 1995; Easterby-Smith, 1997).

The notion of a learning organization, although a very ambiguous concept itself (Poell, Tijmenssen, & Van der Krogt, 1997), has become a popular term to stress the importance of learning for organizations. A recurring theme in this debate is the urge for companies to facilitate learning at the individual, team, and organizational level (e.g., Senge, 1990; Simons, 1990; Dixon, 1994). Especially teams are being put forward as crucial contexts for organizing both learning and work (e.g., Benders & Van Hooft, 1996; Vennix, 1996). Product innovation teams have been presented as powerful sources for organizational learning (Ayas, 1997). Apparently, modern organizations cannot afford not to be learning in one way or another.

1.1.2 Changes in Work Organizations Calling for Learning

The growing importance of learning for organizations' survival is usually attributed to an organizational world becoming increasingly complex and knowledge based, with technological changes following each other ever faster and markets getting more and more dispersed (Otte & Schlegel, 1992, European Commission, 1996, MOCW, 1998). At the organizational level, these rather abstract developments are translated into new structural shapes. Large organizations have flattened their structure in an attempt to become less bureaucratic, which should encourage the adoption of innovations and lead to better communication with the markets served. Employees have come to bear work responsibilities that were in the hands of line managers or support staff before, a process referred to as empowerment (Andrews & Herschel, 1996). As a result, their jobs have become broader and more complex. The work organization is no longer characterized by a strong Tayloristic task division. People's jobs are now less individualistic and more semi-autonomous team based (Mai, 1993, Bouwen & Fry, 1996; Hoogerwerf, 1998).

Employees have also become more and more responsible for their own learning, in order to ensure their employability (Bloch & Bates, 1995; Filipczak, 1995; MOCW, 1998). Organizations now expect employees to be flexible and adaptable at work, certainly against the background of increasingly flexible contracts. And not only should employees continuously be learning to perform new and changing tasks, they should also learn how to learn efficiently (e.g., Smith, 1990; Simons & Zuylen, 1995; Onstenk, 1997). It seems that learning and changing have to become modern employees' second nature.

Not only learning in work organizations has become increasingly important, learning that was formerly considered to be independent from the labor market has gradually been vocationalized (Hickox, 1995). As a result of macro-economic and demographic changes, growing attention is paid to schooling and skilling the unemployed (Manninen, 1996; Murphy, 1996). Sectors of the labor market experiencing a scarcity of qualified employees, such as the information technology branche, feel forced to hire and train less or 'wrongly' qualified personnel. The field of adult education is increasingly focusing on work-related qualifications instead of liberal or more general topics (Hake, 1995; Dirkx, 1996). The andragogical concept of the study circle has been introduced into organization development (Hoghielm & Gougoulakis, 1995). Changes in the nature of qualifications required from employees have made that certain areas of learning formerly understood as personal growth, such as self-efficacy, self-reflectiveness, communication and group skills,

are now being embraced by organizations as fairly relevant contributions to the modern work life (e.g., Van Zolingen, 1995; Davis & Miller, 1996; Finger, Jansen, & Wildemeersch, 1998). To summarize, the domain of work and organization has in a way, mainly as a result of economic strain, colonized fields of continuing education that appeared to be much less vocationalized before

1.1.3 Multiple Ways of Organizing Learning

At the organizational level too, economic factors seem to influence the way learning is organized. Whereas a decade ago, off-the-job training efforts were highly characteristic of the field, nowadays training is increasingly delivered on-the-job, in the workplace (Jacobs & Jones, 1995; Glaudé, 1997). On the one hand, organizations find it less costly to have employees trained while remaining part of the production process. On the other hand, on-the-job training is also thought to prevent problems of training transfer (Broad & Newstrom, 1992) and thus enhance organizational innovation.

Other ways than formal training arrangements to organize learning are also gaining attention, usually with a view to integrating learning with work (e.g., Fox, 1997). Methods like action learning have been applied in the world of organizations for quite some time now (e.g., Revans, 1980; Boutinet, 1986; Boutinet & Jobert, 1987; Watkins & Marsick, 1993; Gregory, 1994; McAdam, 1995; Raelin, 1994, 1997; Mumford, 1997). Job coaching and mentoring have become more accepted ways of organizing learning in many companies (Locke & Latham, 1990; Brown, Evans, Blackman, & Germon, 1994; Galbraith & Cohen, 1995). Supervision and intevision as reflective instruments have spread from social sector institutions to a broader range of organizations and branches (e.g., Driehuis, 1997). The importance of socialization into a community of practitioners is stressed in methods of apprenticeship, which have received new attention (Lave & Wenger, 1991). Methods such as job rotation, job enlargement, and job enrichment are used to improve the quality of working life and also to encourage employees to learn and to be more flexible (Hitchcock, 1994; Cheraskin & Campion, 1996).

So-called 'learning islands' (*Lerninseln* in German) have been developed as physical places for employees to be engaged in group learning (Schneider & Stötzel, 1993), workplaces are reorganized so as to become more learning oriented (Verdonck, 1993), and 'change laboratories' are introduced for continuous incremental work improvement (Engeström, Virkkunen, Helle, Pihlaja, & Poikela, 1996). Especially in large organizations, self-paced training courses in so-called open learning centres have come to replace or supplement trainer-directed arrangements, using various multi-media technologies as didactic tools (e.g., Biemans & Simons, 1992). Overall, a lot is expected from the systematic use of modern communication technology to provide all organizational members with the relevant information to make the appropriate decisions in their work, which is also thought to encourage learning at all levels (Wijnhoven, 1995; Roth & Niemi, 1996). Clearly, multiple ways of organizing learning have come into existence over the last decade, although formal training remains a well-known and well-used practice.

1.2 A Critique of the Dominant View on Organizing Work-related Learning

So much for an overview of current issues in the debate on work-related learning, as far as they have an impact on the level of concrete organizations. In this paragraph, various points of criticism are raised regarding the developments taking place in the field and regarding the way these tendencies are predominantly viewed in literature.

1.2.1 *The Creation of a 'Learning Elite'*

Stressing the importance of continuous learning for work is now a common theme. There is the inherent danger, however, of involuntarily creating a 'learning elite' of people who are capable and willing to learn continuously. People unwilling or incapable of learning all the time run the risk of becoming second-rate employees, who are self-responsible for their possible unemployment (McGivney, 1992; Forrester, Payne, & Ward, 1995). The creation of a learning elite is particularly hazardous if it boils down to deepening the present divide between people with interesting well-educated jobs and those who perform lowly skilled tasks. Training efforts aimed at the emancipation of less-educated people have not proven to be very effective (Otte & Schlegel, 1992; Riemer, 1997). It may be far too demanding for large groups of people to be constantly engaged in learning processes and changes, whatever great methods may be created to help them achieve it. Simply forcing people to keep learning without recognizing the fundamental objections they might have seems unethical and, for that matter, ultimately ineffective.

1.2.2 *The Functionality of Learning for Work*

This first point of criticism is reinforced by a second, which refers to the strictly instrumental way of looking at the relation between learning and work. Learning is regarded as mainly functional for work. Problems or changes in work are viewed as misfits between work requirements and employee qualifications. Employees have to adapt to new work requirements by gaining necessary qualifications through training. Learning is considered to be a tool of management and should be mainly relevant for work performance. Relevance for employee development is secondary and usually limited to taking into account their learning style and needs within the training program. The workplace may be incorporated into training programs as a didactic principle. The participation of employees in organizing learning is limited to the execution of the training program.

It seems as though when work and organizations change, which they do all the time, people simply have to adapt to these changes by acquiring the necessary qualifications. But work and organizations can also be adapted to people's existing or newly acquired qualifications. It should be recognized that, on the one hand, work innovation and organizational change require from employees an ability to gain new qualifications. On the other hand, however, learning and development as such enable employees to actively shape work and organizations in ways that seem most beneficiary to them. The first observation, implying that learning should be relevant for work, is most commonly stressed (e.g., Swanson & Arnold, 1996). The latter, focusing on the empowering features of

employee development, builds upon a rich tradition within the fields of andragogy and adult education (e.g., Knowles, 1978; Brookfield, 1986) and has been gaining new momentum over the last few years (e.g., Van der Krogt, 1995; Wildemeersch, 1995). It is crucial, however, to recognize the tension between the functionality of learning for work and its own value and dynamics (Finger, Jansen, & Wildemeersch, 1998).

The tendency toward vocationalization, described earlier as another indication for the growing importance of work-related learning, equally bears the danger of losing a critical stance regarding work and organizational change. Organizing work-related learning is more than just seeking to adjust people to their work situation, it also means empowering them to strengthen their own professional and work development. Again, it should be recognized that the tension between these two goals of learning is ever-present.

1.2.3 The Disregard of Employees as Organizers of Learning

The main reason for the dominance of the functionalist approach to work-related learning lies in the managerial perspective that strongly characterizes the discipline. Learning and training are mainly viewed as tools of management. Work-related learning is usually referred to in terms of the activities of trainers, consultants, or HRD staff. These actors are regarded as the ones who organize training programs for the employees, by order of the management and in line with the corporate policy. The training programs are pre-structured and formalized. Managers perceive HRD and training staff as their loyal servants, often rightly so. The perspective of the employees, their ideas and interests with regard to learning and work, are either ignored or viewed quite instrumentally. This is certainly true as far as employees' participation in learning policy and program development is concerned (cf. Riesewijk & Warmerdam, 1988; Feijen, 1992). Learning policy seems to be the sole domain of management, while program development is apparently done by training staff only. Employees seem to be rather passive learners at the receiving end of the line.

Even if the focus should change to open or self-directed learning, this is often understood to mean that employees now have to perform some of the tasks previously in the hands of trainers. Or, new didactic methods are invented to enable employees to efficiently learn what the management wants them to learn (Dirkx, 1996; Davis & Miller, 1996; Burke, 1997). Moreover, due to a traditional emphasis on the strategies of trainers and consultants (McLagan, 1989; Van Ginkel, Mulder, & Nijhof, 1994; Bazigos & Burke, 1997), much of the literature still focuses on organizing training instead of learning arrangements. The concept of the learning organization suffers from an equally narrow conception of how learning and work should be organized (cf. Poell, Tijmenssen, & Van der Krogt, 1997). Employees are not regarded as crucial learning actors, who have their own theories and interests as to what they should learn, for what purpose, and in what way. The actions of employees are rather viewed as reactions to the strategies of trainers and managers (Easterby-Smith, 1997). Nevertheless, employees have their own strategies to organize learning (Day & Baskett, 1982). These determine in large part how learning is organized, in interaction with the strategies employed by the management and the training staff.

1.2.4 The Pursuit of Uniform Learning and Work Arrangements

Organizations seem to be implicitly viewed as machine bureaucracies, hierarchical organizations in which employees perform clearly defined tasks and routines. The management and the work preparation staff design and improve work structures, the employees perform the actual work. Training staff support the management in the implementation of work changes by organizing training programs for employees. Increasingly, it seems as though all organizations are having to move from a Tayloristic to a more team-based organization of work (e.g., Helbich, Stauber, Bockelbrink, Lichte, & Reppel, 1993; Mohrman, Cohen, & Mohrman, 1995; Boonstra & Steensma, 1996). Organizations are supposed to be doing away with hierarchy and functional divisions. Instead, responsibilities are to be placed as low in the organization as possible. By analogy, learning is to become the prime responsibility of learners within their work team. Various new didactic methods are introduced to help employees adjust themselves to changing requirements by learning. Besides the criticisms already raised before, three further critical remarks are in place here.

First, however popular this image of present-day learning and work organizations may be, it is hard to distinguish rhetoric from reality. Although top managers and consultants may applaud the creation of flexible organizational arrangements, existing patterns are often quite persistent (Fruytier, 1994; Cordery, 1996; Dovey, 1997). The organizational reality tends to differ considerably from the ideal pictures painted by management gurus. These images are used by managers to project their theories of learning and work organizations. But employees' projections may be equally valid and, more importantly, they make for an organizational reality quite different from the image dominantly presented. In order for a realistic picture to emerge, all actors' images should be taken into account (Rhodes, 1997).

Second, the dominant image is a fairly uniform one denying the diversity and dynamics within learning and work organizations (Tsang, 1997; Agnew, Forrester, Hassard, & Procter, 1997). True, many organizations are trying to de-bureaucratize. But other companies (e.g., care institutions) are making the work structures more bureaucratic and the work processes more top-down. Still other companies strengthen the impact of the professional field on their organization, thereby making work more congruent with external innovations (e.g., information technology companies). So, not only are organizations very diverse by nature, they are also constantly changing. Moreover, there is usually little consensus among the actors about the right direction in which to change. What managers may view positively as empowerment may be regarded by employees as replacing well-known ways of working with no sense of direction. What the management may stimulate as team-based learning, may be regarded by employees as just another smart way to do things in the management's way. Boot & Reynolds (1997) argue for using multi-faceted concepts such as 'community' and 'network' rather than viewing organizations in terms of groups only. To summarize, instead of replacing one dominant organizational model with a different one that is equally uniform, justice should be done to the diverse and dynamic nature of work organizations and the way learning is organized.

Third, the tendency to reduce the question of organizational change to altering a Tayloristic into a team-based structure is not necessarily in the best interest of employees. Both Tayloristic and team-based work arrangements invite the employees to develop company-specific competencies, whereas they would profit more from developing a broad set of professional qualifications enabling them to perform work in a variety of companies. Employees who are well-embedded in their professional discipline have more possibilities to stay employed in interesting jobs. This, however, calls for an organization of work and learning along the lines of professional domains (or *Berufe* in German, cf. Kraayvanger & Van Onna, 1985; Arnold, 1994; Kraayvanger & Van der Krogt, 1995). An orientation on the professions, though presently under pressure in the German discussion as well, has never gained much popularity in the Anglo-Saxon world. The point made here is not, in view of the previous criticism, to be taken as a plea for all organizations to develop into professional organizations. It is meant as an incentive to look more seriously at the possibilities offered by professional work to organize learning and work.

1.3 The Learning-Network Theory (LNT) as an Interpretive Framework

In view of all this criticism that has been raised, there is a need for a theoretical framework that regards organizing work-related learning differently. One that acknowledges employees as central actors who co-organize learning on the basis of their ideas and interests, instead of reducing their participation to being at the receiving end of a training course. One that regards multiple ways of organizing work-related learning not only as a didactic principle, but as an expression of the various organizing strategies used by employees and other actors in order to learn. One that recognizes the immanent tensions between learning and work, between employee development and work performance, instead of viewing learning simply as functional for work. One that reduces the danger of creating a learning elite by enabling people to adjust work to their qualifications as well as adapt their competencies to work innovations. This paragraph explores to what extent the learning-network theory (LNT) offers an interpretive framework that can meet these needs.

1.3.1 How is Learning Organized?

The LNT (Van der Krogt, 1995) describes the way learning is organized in the context of work organizations. According to the LNT, a learning network is operating in every organization. Learning networks are not limited to network-type organizations, or to matrix organizations, or to team-based organizations. People learn in every organization, even in a hierarchical one or a chaotic one, and the learning network merely represents how the learning is organized. This concept of a learning network, by the way, has nothing to do as such with computer networks, nor with interorganizational networks. In the LNT, a learning network consists of the various learning activities organized by the members in the organization. There are three main components to a learning network, which appear in Figure 1.1.

1.3.1.1 Actors, Processes, and Structures in the Learning Network

The three main components in each learning network are the learning actors, the learning processes that they organize, and the learning structures that they create.

1. At the heart of each learning network are the **learning actors**, that is, those engaged in organizing learning. There are internal learning actors, for instance, employees, training staff, first line managers, top managers, personnel officers. But external learning actors can organize learning as well, for instance, professional associations, trade unions, external HRD consultants and training staff, government authorities. They are referred to as learning actors, because they are regarded as stakeholders who act deliberately on the basis of their own theories and interests with respect to work-related learning. The LNT regards employees on the shop floor level as central learning actors, who interact with the other actors to organize activities. Learning is considered to occur when actors acquire and develop the relevant action theories. Action theories encompass the norms, ideas and rules that more or less explicitly guide and legitimize people's actions (Argyris & Schön, 1978; Van der Krogt, 1995), although actors are not always able (or enabled) to act according to their own theories. Actors are likely to have different ideas about which action theories are relevant and to employ different strategies in order to acquire or develop them. For example, whereas managers may think employees should learn to be more customer-oriented by taking an on-line course, employees may rather express a need to gain more product knowledge by contacting fellow employees in other departments. Employees may even feel there is an organization problem, rather than a learning problem, which could be solved by granting them a certain amount of job enrichment.

LEARNING PROCESSES

- * Development of Learning Policies
- * Development of Learning Programs
- * Execution of Learning Programs

LEARNING STRUCTURES

- * Content Structure
- * Organizational Structure
- * Learning Climate

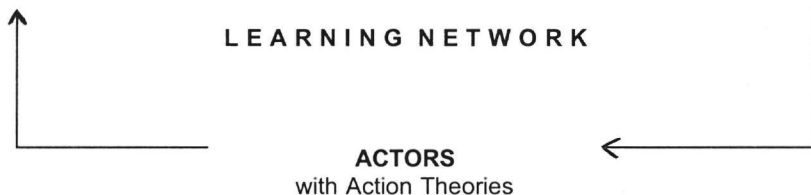


Figure 1.1. The Learning Network of an Organization (Van der Krogt, 1995).

2 The learning actors interact with each other to organize activities giving rise to three **learning processes**, namely the development of learning policies, the development of learning programs, and the execution of learning programs. The development of learning policies refers to influencing the general direction of the learning network, that is, what people should learn and in what way they should learn it. Activities in this process include reflecting on learning needs, discussing the consequences of work innovations, listing available and required competencies, and so forth. The development of learning programs comprises the making of coherent sets of activities in which people learn. Activities in this process include, for instance, introducing new work elements, scanning the external training market, creating a problem-solving quality circle, finding ways to let various activities mutually enforce each other. In the execution of the learning programs people are actually learning. Activities in this process include job coaching, solving difficult work problems, taking on-line courses, asking experienced colleagues for help, receiving work instructions, and so forth.

It is important to note that all actors participate in all three processes, although participation is not always tantamount to action. Deliberately refraining from action, or asking others to represent your ideas in their actions, can also be viewed as a way of participating in a learning process. In reality, some actors are more dominant in some processes, depending on the context in which the learning network operates. For example, trainers dominate the development of learning programs in a learning network operating under Tayloristic work arrangements, whereas individual employees dominate this process in a more liberal learning network alongside self-directed work arrangements.

It should also be clarified that, although the three processes are interrelated, there is no fixed time order in which they should necessarily appear. One model commonly recommended is to develop learning policies first, then translate these policies in the planning of learning programs, and finally run the programs. For one thing, this rarely happens as intended. But more importantly, other ways of linking the processes to each other seem equally valid. For instance, the experiences gained during a disastrous innovation program can have a strong impact on learning policies within the organization. Learning programs can also be developed incrementally as learning activities are taking place, for example when employees are studying a complex work problem for which no solution is easily available. Again, the relationships between the three processes seem to depend on the work context in which they occur.

Finally, it should be noted that within the LNT concepts such as learning activities, processes, and strategies refer to social-organizational rather than mental operations. This is not to say that mental activities, processes, and learning strategies are irrelevant in work-related learning. Educational psychologists have greatly enhanced our knowledge about mental operations (Levine, Resnick, & Higgins, 1993, Oshima, Scardamalia, & Bereiter, 1996, Van der Sanden, 1997). The LNT, however, focuses mainly on what happens between people as they interact socially, rather than on what takes place within a person's mind.

3 When people have been interacting to organize learning activities over a longer period of time, certain more stable patterns tend to develop. These are termed **learning structures** and can be observed in a certain content structure, organizational structure, and learning climate. The content structure refers to the profile of the learning programs that are carried out: what is the nature of the learning activities that make up these programs? Learning activities can be more learner-directed or more facilitator-directed, they can take place on-the-job or off-the-job, they can centre around various learning themes. The organizational structure comprises the division of tasks and responsibilities by the various actors in organizing the learning activities: which actor tends to play which role in which of the three learning processes? Who is authorized to do what? The learning climate reflects the prevailing norms and values with regard to learning in the organization: what are valued qualifications for people to acquire? What are normal ways to go about learning them?

The basic operation of a learning network is described in Figure 1.1. The LNT assumes that people are competent actors who interact with each other on the basis of their own theories and interests. Thus, they create learning processes that evolve into structures over time. These structural arrangements, which provide the context for organization members to act, in turn influence people's actions but do not necessarily determine them. Actors have choices, up to a certain extent. The LNT thematizes this tension between actors' choices and their self-created structural context, or between agency and structure (Giddens, 1984). It tries to avoid both an over-reliance on structural determinism (Donaldson, 1996) and a somewhat naive context-independent action focus (Argyris & Schön, 1978).

1.3.1.2 Four Theoretical Types of Learning Networks

The LNT distinguishes four theoretical types of learning networks situated in a three-dimensional space. The four types are the liberal, vertical, horizontal, and external learning networks, as summarized in Table 1.1. The three dimensions are the liberal-vertical, liberal-horizontal, and liberal-external dimension, as shown in Figure 1.2.

1. In the **liberal** learning network, individual employees create their own sets of learning activities. Learning policies remain implicit, at least from the organizational point of view. Program development is in the hands of the individual employees who set out to create their own relevant learning situations. Learning-program execution is self-directed as well. The profile of the liberal learning network can be termed as unstructured and individually oriented, since there is little structure above the individual level. The organizational structure is loosely coupled, with contractual relationships based on negotiation between the actors. There is a liberal learning climate in which an entrepreneurial learning attitude is encouraged. Organizations that take the notion of individual employee empowerment (Andrews & Herschel, 1996) seriously are likely to develop a liberal learning network. The notion of employability (Bloch & Bates, 1995; Filipczak, 1995) can equally be regarded as a tendency towards liberalization.

2. The **vertical** learning network is characterized by linear planning of learning activities. First, learning policies are developed by the management. These are then translated into thoroughly pre-designed learning programs by HRD and training staff. Finally, the programs are delivered to the employees, who receive guidance in going through the training activities. The profile of the vertical learning network can be called heavily pre-structured and the learning activities are usually oriented toward the improvement of simple tasks or functions. The organizational structure is centralized and dominated by the management, who keep formalized relationships with other actors. The learning climate can be termed as regulated, since everything that is supposed to happen is laid down in rules and regulations. This vertical learning network is common in many large organizations and, despite its growing unpopularity associated with Taylorism, still plays a dominant role in organizational reality (Wilson & Cervero, 1997). The way learning programs are designed in this network bears many resemblances to what Marsh and Willis (1995) refer to as a rational-linear approach to curriculum planning.

Table 1.1.

Four Theoretical Types of Learning Networks (Adapted from Van der Krogt, 1995)

Learning Networks				
	Liberal	Vertical	Horizontal	External
LEARNING PROCESSES				
	single activities	linearly planned	organically integrated	externally co-ordinated
Development of Learning Policies	implicit	planning	learning	inspiring
Development of Learning Programs	collecting	designing	developing	innovative
Execution of Learning Programs	self-directing	guiding	counseling	advisory
LEARNING STRUCTURES				
Content Structure (Profile)	unstructured (individually oriented)	structured (task or function oriented)	open or thematic (organization or problem oriented)	methodical (profession oriented)
Organizational Structure (Relations)	loosely coupled (contractual)	centralized (formalized)	horizontal (egalitarian)	externally directed (professional)
Learning Climate	liberal	regulative	integrative	inspiring

3. In the **horizontal** learning network, the three learning processes are organically integrated as opposed to mechanically planned learning processes. Programs develop incrementally while they are being executed. There are no pre-designed learning policies, these develop by learning from experience as the programs go. Learners are facilitated by process counselors in the learning programs that they create along the way. Marsh and Willis (1995) call this an artistic approach to curriculum planning. The profile of the horizontal learning network can be referred to as open or thematic, the learning activities are organization-oriented and aimed at problem solving. The organizational structure is horizontal, with egalitarian relationships among the actors. Groups are the dominant actors. The learning climate emphasizes integration of learning and work as two sides of the same coin. This learning network has gained popularity through the extensive literature on learning organizations, up to the point where a total integration of learning and work in groups seems to be advocated (Senge, 1990). In practice, however, complete integration proves almost impossible and, moreover, hardly desirable as the only option (Poell, Van der Krogt, & Tijmensens, 1997).

4. The **external** learning network is co-ordinated from outside the organization, from the professional associations to be more precise. The learning policies are inspired by new developments within the profession of the employees. Learning programs are really work innovations to be introduced in the organization by the professional field. In the execution of the learning programs, learners are advised how they can adapt their work to the innovation by external actors. The profile of the external learning network can be called methodical, since it is based on externally developed new work methods. The learning activities are aimed at improving the employees' professional equipment and work standard. The organizational structure is directed externally, with professional relationships among the actors. There is an inspiring learning climate open to innovations from outside the organization. This learning network, although common when employees have a strong orientation on their professional field, seems to be more or less under siege, nowadays. Managers find it hard to control and call it inflexible. But many professions are well-organized, very much self-sustaining, and quite successful in protecting a strong position. Their popularity with employees seems hardly surprising, since professions usually offer their members more status and job security than the organizations where professionals happen to work (Poell & Tijmensens, 1996).

1.3.1.3 Dynamics in Learning Networks along Three Dimensions

The LNT assumes that a learning network in any organization displays characteristics of one, or in the common case of hybrid forms, several of the four types described above. The theoretical types serve as a three-dimensional frame of reference for actual learning networks (cf. Figure 1.2). Not only can their present position be described, the framework also enables the observation of change in ever-dynamic learning networks. Learning networks can move alongside one or more dimensions, altering over time as actors get to interact differently. The liberal-vertical dimension, then, represents the amount of centralisation and regulation in the learning network. The liberal-horizontal dimension

stands for the varying focus on group or individual criteria as a context for problem solving and learning. The liberal-external dimension describes how learning networks may be more or less inspired by innovations developed outside the organization. The call for learning organizations can now be understood as a plea to strengthen the horizontal dimension, the impopularity of mechanical training networks as a proposed farewell to the vertical type. Empowering the learners can be interpreted as a move toward the liberal type, while externalization obviously refers to strengthening the impact of the professional discipline on the learning network.

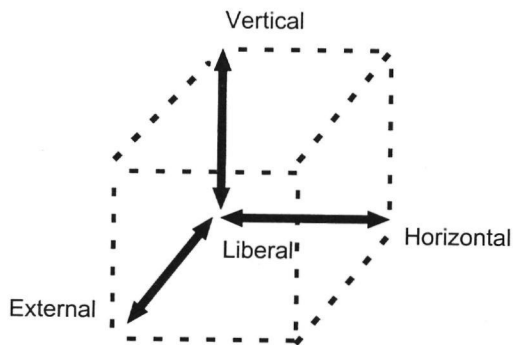


Figure 1.2. Four Theoretical Types of Learning Networks in a Three-dimensional Space (Van der Krogt, 1995).

1.3.2 How are Learning and Work Related?

Most actors operate not only in the learning network of an organization, but also in the labor network, which is where the work is organized. The labor network can be described while using the same perspective as the learning network, with a focus on work actors, processes, and structures. The complete picture of the relationship between the learning network and the labor network is shown in Figure 1.3.

1.3.2.1 Actors, Processes, and Structures in the Labor Network

Work actors are regarded as competent organization members, who organize the work on the basis of their views and interests with respect to work. Work actors include employees, line managers, top managers, work preparation staff, personnel officers, professional associations, trade unions, and so forth. Actors have work action-theories, which represent their ideas about work and the organization of work, and they have learning action-theories, which refer to their views on learning and the organization of learning. Besides learning processes, actors interact with each other to give rise to three **work processes**, namely the development of work policies, the development of work programs, and the

execution of those programs. Over time, certain more persistent work arrangements come into being, here referred to as **work structures**. The work content describes the activities that make up the work programs, the work relations represent the division of tasks and responsibilities regarding work, and the work climate reflects the prevailing norms and values with respect to doing the job. The existing structural arrangements influence but do not completely determine the work actions undertaken by the actors.

LEARNING PROCESSES

- * Development of Learning Policies
- * Development of Learning Programs
- * Execution of Learning Programs

LEARNING STRUCTURES

- * Content Structure
- * Organizational Structure
- * Learning Climate

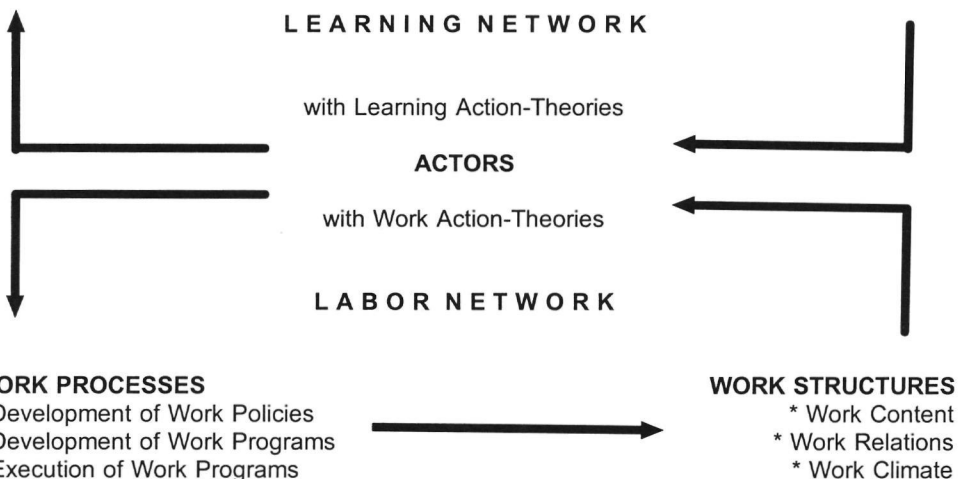


Figure 1.3. The Learning and Labor Networks of an Organization (Van der Krogt, 1995).

1.3.2.2 Four Theoretical Types of Labor Networks

Four theoretical types of labor networks are distinguished in Table 1.2, namely entrepreneurial work, machine-bureaucratic work, adhocratic group work, and professional work (cf. Mintzberg, 1979). **Entrepreneurial** work is characterized by a not-too-complex but broad work content, contractual relationships between the actors, and a liberal work climate. Individual employees are dominant actors in this network, negotiation a prime feature of the interaction with other actors. Entrepreneurial work can be found in small and medium-sized enterprises, in large corporations consisting of small self-supporting units, and in any organization where all individual employees have 'their own shop'. The notion of empowerment reflects a tendency toward this type of labor network. **Machine-bureaucratic** work has a simple and narrow work content, collective work relations between the actors, and a regulated work climate. Managers and work preparation staff

are dominant actors in this network, which features a great deal of central planning and pre-designed work. This is Tayloristic work in its prime form, mostly encountered in large mechanically operating companies, now increasingly losing popularity because of its perceived inflexibility. **Adhocratic group** work is complex problem-solving with a broad content, labor relations are group or team based, and the work climate is organic and learning oriented. Autonomous multi-disciplinary work groups are the dominant actors in this network, consisting of project teams created to accomplish solutions to problems never encountered before. Many popular visions of the learning organization implicitly refer to this type of labor network, which is then to be integrated with a team-based horizontal learning network. **Professional** work has a highly specialized and complex work content, labor relations are taken care of within the professional associations outside the organization, and there is an innovative work climate. The professional field is the dominant actor in this network, seeking to inspire organizations with new work innovations that have been developed. The German system of *Berufe* (Kraayvanger & Van Onna, 1985, Arnold, 1994, Kraayvanger & Van der Krogt, 1995) is a prime example of this type of labor network, which is usually less popular with managers than with employees.

Table 1 2

Four Theoretical Types of Labor Networks (Adapted from Van der Krogt, 1995)

Labor Networks				
	Entrepreneurial Work	Machine-bureaucratic Work	Adhocratic Group Work	Professional Work
Dominant Actors	individual employees	managers / work preparation staff	multi-disciplinary work group	professional associations
Work Content	broad / simple	specific / simple	broad / complex	specific / complex
Work Relations	contractual	collective	team-based	externally arranged
Work Climate	liberal	regulated	organical	innovative

1 3 2 3 Dynamics in Labor Networks along Three Dimensions

The labor network in any organization can more or less approach these theoretical types. Labor networks are also characterized by changes over time, as a result of altering interactions between the work actors (cf. Figure 1 4). For instance, managers may want to introduce team-based work, or employees may want to strengthen their professional outlook on work. The changes can take place alongside three dimensions, comparable to the ones in the learning networks. Entrepreneurial work can be verticalized to become

more machine-bureaucratic, horizontalized to have more adhocratic group-like features, and externalized to show more professional traits. Of course, changes can also occur in the opposite direction or in more than one direction at the same time. This is especially the case when actors have different ideas about the 'best' labor network and when they employ different strategies to get there. A common strategy is to use the learning network for this purpose. This brings us back to the question of the relationship between learning and work.

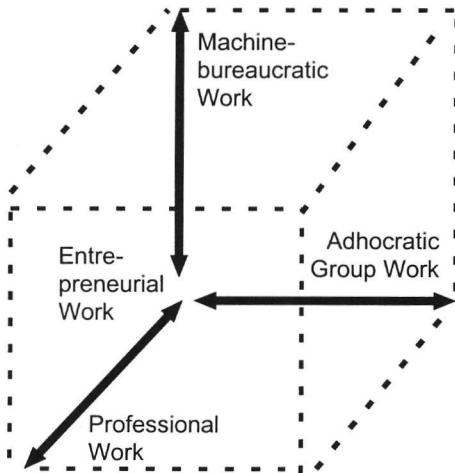


Figure 1.4. Four Theoretical Types of Labor Networks in a Three-dimensional Space (Van der Krogt, 1995).

1.3.2.4 The Relationship between Learning Networks and Labor Networks

The LNT assumes certain relationships between the learning network and the labor network of an organization. These are summarized in Figure 1.5. A liberal learning network is likely to be found in entrepreneurial work, a vertical learning network is expected in machine-bureaucratic work, a horizontal learning network is related to adhocratic group work, and an external learning network is most common for professional work. It is important to observe that these relationships are merely expectations expressing a certain likelihood, based on the fact that actors who organize the labor network are often also engaged in creating the learning network. These actors employ certain strategies to organize learning and work in ways that are most relevant to them. They use the learning network to bring about changes in the labor network, and vice versa. For instance, managers who want to introduce a new work policy can ask their work preparation staff to design new work programs and their training staff to run training programs to enable the employees to perform the work. Trainers can organize structured

on-the-job training to strengthen the links between the work and their learning programs. Employees can re-organize their work programs informally as a result of what they have learned from their colleagues. These are all examples showing how the learning network and the labor network can mutually influence each other.

Nevertheless, both networks have a dynamics of their own as well. The reason for this is twofold. First, actors use the two networks for different purposes. Learning and work are organized to accomplish different objectives, through strategies operating by different principles. These objectives and strategies are also likely to differ from one actor to another. Employees will stress the importance of solving the work problems that they encounter, of their personal and professional development, of their work satisfaction, and of their job security. Managers will focus on team performance, meeting the targets that have to be met in whatever way. In the latter view, learning should be mainly relevant for better work performance, whereas the former emphasizes its relevance for employee development. The different objectives that actors pursue in learning and work provide a first explanation for the tension between the learning and the labor network. For a second reason, the power relations between the actors in the labor network differ from the ones in the learning network. Generally speaking, employees are more powerful in the learning network than they are in the labor network, which tends to be dominated by management and their support staff. Put differently, it is harder to bring other people to learn than it is to have them perform a certain job. A popular notion in this respect is the concept of resistance to change (Judson, 1991), which from the LNT perspective seems to refer mainly to the fact that people tend to have their own views and interests as to how and why they should change (cf. Hoff & McCaffrey, 1996). Again, it seems harder to force change or learning upon people than it is to let them do their job.

Labor Networks	Learning Networks			
	Liberal	Vertical	Horizontal	External
Entrepreneurial Work	X			
Machine-bureaucratic Work		X		
Adhocratic Group Work			X	
Professional Work				X

Figure 1.5. The Expected Relationships between Learning and Labor Networks.

To take the argument one step further, provoking discrepancies in the expected relationship between a labor and a learning network may be one of the most common strategies used by actors to achieve organizational change. For instance, management can verticalize entrepreneurial work by introducing more standardized simple jobs and have staff design standardized training programs for the employees. The LNT would expect the learning network to become more vertical and less liberal as a result, although other actors can prevent this from happening by employing different strategies. To take another example, employees can strive to make the learning network more external by seeking inspiration within their professional associations from newly developed work methods. If they learn to use these methods and change the internal work organization accordingly, the labor network will become more professional. Again, other actors may employ different strategies in order to encourage other directions for change. The point is that the learning network and the labor network are relatively autonomous, in that they are fairly independent as far as their own dynamics is concerned, but very much intertwined because most actors play a role in both networks at the same time. To summarize, the LNT does not prescribe what kind of learning network is best suited for what kind of labor network, it merely describes the relationships between the two networks that are likely to be encountered.

1.3.3 Summary

This paragraph has explored whether the learning-network theory (LNT) meets the need for an alternative theoretical framework of organizing work-related learning, in view of the criticisms raised before. The LNT regards employees as core actors co-organizing learning according to their ideas and interests. It recognizes diverse ways of organizing learning as a product of the different strategies that actors use. It focuses on the inherent tensions between employee development and work performance, between the learning network and the labor network, thereby avoiding sheer functionalism. It acknowledges that people can adapt work to their competencies as well as learn in order to adjust to work innovations. The conclusion is that the LNT provides an alternative perspective on work-related learning that is useful to describe both how learning is organized and how learning and work are related.

1.4 Organizing Work-related Learning Projects Viewed from a Network Perspective

This thesis sets out to study the concrete manifestations of the tension between learning and work in organizing work-related learning. The concept of a learning project is introduced for this purpose. A perspective inspired by the LNT is applied to this concept. This implies that learning and work are no longer regarded as separate domains, although advocating complete integration seems equally undesirable. The challenge lies in balancing the tension between integration and separation of learning and work. How can actors organize learning projects that are relevant both for employee development and for

work performance? This question will be elaborated throughout the thesis, since the tension between learning and work is particularly apparent in learning projects - but it also becomes manageable for the actors.

1.4.1 The Concept of a Work-related Learning Project

A work-related learning project is organized by a group of employees who participate in a coherent set of activities centred around a work-related theme or problem, with a specific intention to learn and to improve work at the same time. The activities can include various kinds of learning situations, both on and off-the-job, self-organized and facilitator-directed, action-based and reflection-based, group-focused and individual-oriented, externally and internally inspired, highly pre-structured and more open-ended. The activities are bound together by the fact that they all focus on the core theme or problem. Some examples of possible problems or themes for learning projects include increasing client-centredness, operating Windows 98, improving the work climate, investigating a new treatment, introducing team-based work

Although learning projects can be found at every level of an organization, the focus in this thesis is on the operating core at the shop floor (Mintzberg, 1979). These employees perform the key role in the learning project, but usually managers, consultants, trainers, and other (external) actors participate in the learning project as well. To learn something new by investigating a work-related problem should be the most important goal in a learning project. Secondary goals of the actors could be to develop a new product, increase employee motivation or job satisfaction, change the organization structure, develop an innovative culture, to name just a few possibilities.

The notion of a project is well-known in literature (as Chapter 2 illustrates more fully), but not in the sense of a work-related learning project just described. The organizational literature features a growing body of knowledge about project-based work, about project organizations, and about innovation projects, sometimes even with a view to (organizational) learning from these project efforts (Bouwen, De Visch, & Steyaert, 1992; Nevison, 1994; Ayas, 1996a; Peters & Homer, 1996; Van Aken, 1996; Pellegrinelli, 1997; Kessels, Smit, & Van Aken, 1997). But in these references, employees' learning is only viewed as a secondary goal, the main goal being organizational innovation

The educational literature too, shows numerous references to project methods or cooperative learning (Wade, Abrami, Poulsen, & Chambers, 1995). Although these do refer to learning, they focus mainly on didactic methods used for pupils in schools (e.g., Sharan & Sharan, 1992; Wolk, 1994; Bonnet, 1994; Kolmos, 1996; Odé & Tiesinga, 1997). Wade, Abrami, Poulsen, & Chambers (1995) provided an overview of 926 book and article references about cooperative learning efforts, only some of which did not focus on primary and secondary education. The short section about higher and adult education contained a few references to learning groups of employees in work organizations, with an additional few in the teacher training section. There are other references to educational projects conducted by professionals, but these efforts are usually part of graduate degree programs the employees are taking (Lynn & Taylor, 1993; Dunne, 1993; Gross, 1994;

Peterson & Myer, 1995; Gasen & Preece, 1996; Kolenko, Porter, Wheatley, & Colby, 1996; Dowling & Coppens, 1996; Hubbe, Cearlock, & Etyne-Zacher, 1996).

This only goes to show the dominance in literature of formal training arrangements over more informal employee-driven project-based learning efforts. The importance of pre- and post-training transfer arrangements is increasingly recognized (Ford, 1997). Yet, the transfer problem is introduced by the very idea of separating learning from work in a training setting (Poell & Wijers, 1996). Formal training remains only one way to organize learning (Marsick & Watkins, 1990; Bolhuis, 1995). There are occasional references to the importance of project-based learning, but these are mostly directed at management instead of employee development (O'Neil & Marsick, 1994; Raelin, 1994; Smith & Dodds, 1997) or they prescribe highly pre-structured instead of more open projects (Frey, 1993; Freimuth & Hoets, 1996; Oberscheider, 1996). Moreover, no clear image exists of how to combine off-the-job training programs with on-the-job coaching, mentoring, and self-organized learning activities.

This brings us back to the question of how actors can systematically organize learning projects that are relevant both for employee development and work performance. A network perspective on organizing work-related learning projects should be helpful in shedding light on this question.

1.4.2 A Network Perspective on Organizing Work-related Learning Projects

Applying the LNT perspective results in a learning project being regarded as a small temporary learning network at the level of a group of employees within an organization. A learning project is to a group of employees what a learning network is to an organization as a whole, namely people who organize learning activities more or less together. Except that a learning project is much more focused, on one theme or problem that has relevance for work and for those who organize it.

Work-related learning projects are regarded as the activities of employees, managers, trainers, consultants, and other (e.g., external) actors. All of them organize learning activities around a common theme or work problem, and their joint efforts make up the learning project. All actors have their own policy, their own agenda, their own theories, their own interests. These become manifest as actors interact in the learning project. Learning activities occur in various places, on and off-the-job. Learning may take place in a formalized training setting organized by HRD staff, but learning is also brought about informally by the employees themselves in their everyday work situation. Learning takes place through participation in learning activities, when actors develop their action theories about work, that is, when they extend their action repertoire.

Organizing is not regarded in the LNT perspective as designing and implementing structural learning arrangements by the management. A broader concept of organizing is used, which refers to systematizing action. Organizing is explicitly viewed as the ensemble of strategies of the different actors with respect to learning and work. Strategies are action patterns influenced by the action theories and interests of the actors. Since actors are expected to use different strategies, their interactions are crucial in organizing the learning

project. Employees, managers, consultants, and other actors develop a policy and execute a program within the learning project. Gradually, their interactions become part of certain structural arrangements. These learning structures in turn influence the strategies that actors use, but they do not necessarily determine them. This is the basic organization of a learning project viewed as a network, as Figure 1.6 summarizes. Chapters 3, 4, and 6 contain several case descriptions of actual learning projects viewed from this perspective.

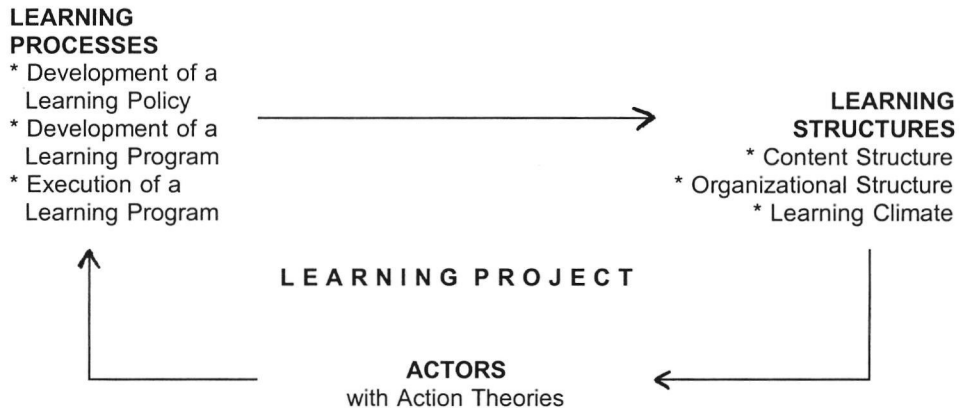


Figure 1.6. Organizing a Learning Project Viewed from a Network Perspective.

1.4.3 The Relationship between Learning and Work

Organizations provide the context for learning projects and for work. Organizations are explicitly viewed multi-facetedly in the LNT perspective, in the sense that they can take various forms, ranging from a machine bureaucracy to a professional bureaucracy, from an entrepreneurial organization to an adhocracy (Mintzberg, 1979). With respect to our purpose of relating learning to work, it is even more important to recognize that work is organized in various ways as well, ranging from machine-bureaucratic work to professional work, from entrepreneurial work to adhocratic group work. Differences in work type are reflected in different work contents and different power relations regarding work.

Learning projects have a certain relationship with these various work types. The activities within learning projects are strongly work related because they centre around a theme or problem that is relevant for work. Moreover, many of these learning activities take place in actual work situations. Some actors may treat learning projects as functional for work, meaning that they are sophisticated ways to adapt employees' qualifications to the work requirements. Other actors will use a learning project to try and adjust their work to newly acquired qualifications. Most learning projects feature both approaches at the same time, in that, by addressing work-related themes or trying to solve problems that are relevant for work, actors develop their qualifications as well as improve their work. Exactly

how the learning project is organized depends on the interactions between the actors. Powerful work actors are in a position to dominate the learning project and organize it according to their own views and interests. The power relations are likely to be related to the type of work in which the learning project takes place. On the other hand, the LNT perspective points to the observation that the power relations with respect to learning are usually different from those regarding work. So, the learning-project type is likely to be related to the type of work in which it occurs, but it is not an exact one-on-one relation that is expected.

1.4.4 Problem Statement and Research Questions

How can actors organize learning projects in order to learn and improve work at the same time? Employees, managers, consultants, and other actors experience a constant tension between the relevance of learning projects for work performance and for employee development. There are several ways in which they can reduce this tension. Is this LNT perspective a valid way to describe and explain how work-related learning projects are organized? The first question that this thesis aims to answer is **Which strategies do actors actually use in organizing work-related learning projects?** The possibilities of the various actors to have an impact on organizing learning projects are likely to be related to the type of work in which they are conducted. The second question, therefore, is **How are learning and work related in learning projects?**

This thesis sets out to demonstrate the variety of ways in which learning projects are organized within several work types. The practical relevance of this topic lies in the overview it will give of the various strategies that employees, managers, and trainers/consultants (can) use to organize work-related learning projects. Which alternative possibilities do they have? It also provides an insight into the interactions that occur if all actors employ their own strategies in a learning project, whether congruent with each other or not. How are any discrepancies dealt with? Finally, it points to the importance of taking into account the work context. How can actors relate learning and work in organizing learning projects? In short, this thesis should yield multiple frames of reference for actors to organize work-related learning projects.

1.5 Overview of the Constituting Chapters

The two central questions are elaborated in the following five chapters. Chapter 2 presents an overview of the literature on work-related learning projects. Chapter 3 describes a method of organizing project-based learning. Chapter 4 contains an empirical study of four learning-project cases. Chapter 5 presents a methodological account of the entire research process toward establishing an empirically validated learning-project typology. Chapter 6 contains an empirical study of sixteen cases investigating the relationship between learning-project type and work type. Throughout these five core chapters, which are to be read as separate articles, concepts from the learning-network theory provide the

central frame of reference. Chapter 7 discusses the conclusions and implications of the five studies.

The five studies constituting Chapters 2, 3, 4, 5, and 6 have originally been published as journal articles, or are currently under review. Because each study is concerned with a particular aspect of the central topic of work-related learning projects, the choice was made to incorporate the articles as they have been published or submitted, rather than rewrite them in order to produce one extensive account of a longitudinal study. As a result, the reader may encounter a certain amount of overlap between the chapters, due to the fact that some elements of the theoretical framework and the literature are introduced repeatedly. In other words, each study can be read separately. The introductory and concluding chapters have been added, however, in order to present a more comprehensive account of the theoretical background and the conclusions of the five studies.

Chapter 2. Solving Work-related Problems through Learning Projects¹

The concept of the learning project can be used to systematically organize learning around work-related problem-solving activities. It draws on a dual tradition of organizational projects and project education. There are several approaches to learning projects, which tend to overstress competence development of learners and underscore the importance of simultaneous work development as a means of problem solving. The learning-network theory (Van der Krogt, 1995) is used to broaden the scope on problem solving and to define a coherent concept of learning projects, allowing for a distinction between a liberal, vertical, horizontal, and external type. A range of alternative ways of organizing learning projects to solve work-related problems are presented, explicitly linking competence development to work development.

2.1 Introduction: Organizing Learning Systematically

We have reached the boundaries of what traditional teaching methods can offer for people to become better at their work. This is due to the ever-increasing speed of information flows, the number of work innovations, and the complexity of technological changes (European Commission, 1996). In this respect, the assumption of a stable and uncontended knowledge environment underlying many of the traditional methods does not seem to be valid any longer. Concepts such as training, knowledge transfer, and education are therefore becoming increasingly problematic. As a result, there is a growing interest in the organization of learning at work around problem-solving activities.

Among the alternative concepts believed to be better suited to deal with dynamic complexity are situated learning, problem-based learning, project-based learning, case-based instruction, and so forth. Underlying these notions is the assumption that a great deal of learning occurs incidentally and informally during work. Morgan (1987) defines project-based learning in schools as an activity in which students develop an understanding of a topic or issue by working on an actual (or simulated) real-life problem. The learners have some degree of responsibility in the design of the learning activities. Johnson and Johnson (1994) advocate informal cooperative learning, in which students work together to achieve a joint learning goal in temporary, ad hoc groups. In the context of work organizations, Van Onna (1992) claims that the workplace demands an environment that is open to learning processes but does not entail an explicit educational framework. Lave and Wenger (1991) describe situated learning as a process of increasing participation in a community of practice. In this view, learning springs not only from pedagogical activity (e.g., teaching), but also from participation in practical activities (e.g., apprenticeship).

¹ This chapter has been accepted for publication as Poell, R. F., Van der Krogt, F. J., & Wildemeersch, D. A. (in press). Solving work-related problems through learning projects. *International Journal of Lifelong Education*.

These alternatives to formal education and training can prove to be very powerful ways of organizing learning, which can be employed when employees are unable to participate adequately in work processes and complex problem solving is required. If, however, learning is to be more than an incidental ad hoc activity and formalization is no longer a core characteristic, a key question becomes how learning can be systematically organized. How can different learning activities of an informal, incidental, and formal nature be systematically combined into adequate learning programs? How can problem-solving strategies that people employ be made explicit, how can these be systematized? The concept of the learning project can be useful to answer these questions.

This study explores the concept of the learning project as a means of systematically organizing learning activities around a central work-related theme or problem. First, we present some approaches to (work-related) learning projects. Second, we use the learning-network theory (Van der Krogt, 1995) to integrate our findings in a meaningful concept of work-related learning projects. Third, we support the theoretical framework of the learning network with some empirical evidence to show the wide variety of ways available to solve work-related problems in learning projects. Finally, we discuss some questions that emerge from a learning network perspective on work-related learning projects, which are to be resolved in further research.

2.2 Work-related Learning Projects

2.2.1 The Concept of Projects

The concept of a project is used both in education and in organization. It brings together a number of non-routine activities undertaken by a group or an individual over a certain period of time with a certain purpose. A project signifies something extra-ordinary which is different from, but still linked to, daily practice. In most literature on organization a project is viewed as a means of pre-structuring and controlling these activities and thus reducing uncertainty (Turner, 1993). This approach emphasizes the conditions under which activities take place (e.g., time, money, responsibility), rather than the activities themselves. In some organizations, usually called matrix or project organizations (Mintzberg, 1979), working in projects is daily practice.

In the literature on education a project is usually regarded as a means of bringing meaning to a range of activities by relating them to a certain theme (cf. Morgan, 1987). The theme, or a certain problem to be solved, is central to the project because it structures the activities that are undertaken in a non-linear, iterative way. That is, the theme or problem is gradually explored from different perspectives. Each activity leads to a new activity which was not necessarily pre-planned. Project members are to adjust their goals and methods to new insights gathered during the project. This approach emphasizes the content dimension of the project (activities, intentions, strategies), rather than its conditions.

The use of a project as an educational concept dates back to the beginning of this century, when Kilpatrick presented the project method. A distinctive characteristic of this method is "the organization of curriculum around children's purposes (projects) rather than around subject matter" (Sexton 1990: 82). That is, the activities follow the needs and interests of the learners. Also, the learners are actively creating their own program instead of passively receiving knowledge. The ongoing accumulation of information and knowledge over the past decades has put this feature of active self-direction in the centre of the learning discourse (Cunningham, 1994).

2.2.2 The Concept of Learning Projects

A learning project is usually associated with adults who undertake purposeful activities with the intention to learn. The concept has been applied to the field of work and professions in several instances, as an alternative to formal training and education. It displays features of both the organizational and the educational approach to projects described above, as both elements of control and problem solving are present. Control refers to the planning of learning activities, problem solving refers to the work-related theme that lies at the core of the activities. The more control is emphasized in a project, the more it will become a training project instead of a learning project. We believe learning projects are better suited for complex problem solving at work than training projects, which contain more formal learning activities.

It was Tough who coined the term learning project as "a highly deliberate effort to gain and retain certain definite knowledge and skill, or to change in some other way" (1978: 250). This is a very broad definition, which captures a wide variety of phenomena. Central to this conception of a learning project is an individual learner who self-directs his learning efforts, using several kinds of methods, materials, and people for support. This may be out of curiosity, professional need, enjoyment, or practical need. Tough found that adults typically conduct five learning projects a year, adding up to 500 hours of learning activities, from raising a child to redecorating a house. A number of these are work related, for instance, keeping up with professional literature, handling particular problems at work, participating in workshops with experts. Penland (1979) and Candy (1991) adopt Tough's notion of individual self-directed learning projects that are not necessarily related to the domain of work. Although Candy acknowledges that "not all 'self-directed learning' is a solitary activity, and at least some autodidactic projects arise from, and occur within the context of, membership in a group" (1991: 197), (work) groups are hardly valued as rich learning environments in this tradition. But learning projects can be individual achievements as well as group efforts. In the next section we will present some conceptions of work-related learning projects with group learning as a core characteristic, as we believe group learning projects offer more learning possibilities than individual learning projects do (Wildemeersch, 1991, 1995).

So far, we have shown that learning projects draw on a dual tradition of organizational projects and project education. Projects can be individual or group efforts, the latter most often in the form of a learning set. When complex problem solving at work

is concerned, learning projects are increasingly considered to be more suited than training projects. We refer to these projects as work-related learning projects.

2.2.3 The Concept of Work-related Learning Projects

Argyris and Schon use the concept of a learning project as a way of conducting an "organizational inquiry" (1978: 197). This inquiry is aimed at the identification of the underlying theories on the basis of which individuals and groups within the organization act. This should result in the articulation of a shared problem definition and enable possible solutions, provided there is open communication and dialogue. Put this way, Argyris and Schön were advocates of the learning organization 'avant la lettre'. However, diverse the ideas on the learning organization, most authors in this tradition emphasize the importance of shared assumptions and open communication (Shrivastava, 1983). This approach is further characterized by systematically solving real-life work-related problems and deliberately reflecting on the experience in order to learn. For instance, Marsick and Watkins (1990) use Revans' (1980) notion of action learning and Kolb's (1984) concept of the experiential learning cycle to present their ideas on action-reflection learning projects. In their view, learning takes place in action but also in reflection on action, and a learning project is a way to organize action and reflection in an ongoing alternation. McGill and Beatty use the term "action learning set" (1992: 21) for a group of employees engaged in an action learning project, learning with each other and from each other's experience. This approach seems well-suited to solve ill-structured work-related problems in groups, although its basic premise of open communication and shared assumptions is questionable.

Learning projects can also be regarded as training projects supplemented with measures in the work situation, usually directed at the enhancement of transfer (Broad & Newstrom, 1992). Some examples of these measures include coaching, supervision, participation in the redesign of work, action planning during formal courses, bringing practical cases into course contents. Formal learning activities play a significant role in these projects. In this approach, managers decide what work innovation will look like and trainers translate new job requirements into what workers should learn. These actors do all the problem solving and leave the learning part to the workers. Workers are provided with several opportunities that should narrow the gap between the changing work demands and their present qualifications. However, the control approach to projects presented above is dominant, which fits neatly into theories on training as a tool of management (Robinson & Robinson, 1989; Swanson, 1994).

2.3 Learning Projects Viewed as Learning Networks

We have presented several orientations on project-based learning as a way of solving work-related problems. Clearly, there is a variety of possible learning activities, and a variety of ways to organize these activities into learning projects. Furthermore, trainers

turn out to be not the only actors who organize learning. Operative workers organize their own learning activities individually or in groups, strategic and operational managers play a role in organizing learning.

The existence of different approaches to learning projects makes it difficult to define the concept unambiguously. On the other hand, if diversity is a core characteristic of a phenomenon such as project-based learning, we should look for coherent conceptualizations that allow for this multiformity. There is reason to assume that diversity is essential. In project-based learning there is no one best way, since problems can be dealt with in a variety of ways all leading to some satisfactory solution. Furthermore, problem solving is not something that can be entirely pre-planned. Usually the right way to proceed only becomes clear gradually, during the process of investigating and redefining the problem from different viewpoints. We need a concept of learning projects, therefore, that allows for the diversity in organizing learning. Regarding learning projects as networks can be helpful in this respect.

2.3.1 A Network Approach to Learning Projects

The learning-network theory (Van der Krogt, 1995) provides a frame of reference for the organization of work-related learning. It proposes that learning systems in organizations can be approached as networks comprising different actors (e.g., learners, trainers, managers) who organize the processes in the learning network. These processes are interaction processes, in which learners undertake actions together. They include the development of learning programs and learning policies along with the qualifying process², in which learners learn and acquire relevant qualifications. Learning networks are thus constructed in an interaction process between actors, who act on the basis of different theories and positions. For example, trainers who are in favor of computer-based instruction may have to negotiate about learning programs with managers who believe that on-line consultation of expert colleagues is a better way to learn. The constant interaction processes bring about diversity and dynamics in learning networks. In the course of time, the processes result in learning structures, including a particular structuration of the content, an organizational structure, and a learning climate. These structures in turn influence the actions that actors undertake in the learning processes. For example, an organizational structure dominated by line managers limits the possibilities of trainers to influence qualifying processes. In this view, learning is a social rather than a mental operation. To put it bluntly, learning is located among people rather than inside the head of a single person. It is assumed that people learn (i.e., the theories on which they act³ are changed) as a result of their participation in the processes of the learning network.

The learning-network theory focuses on the learning network in organizations. In order to understand learning projects we have to apply these ideas to the learning group

² The qualifying process was referred to earlier as the execution of learning programs

³ These theories were referred to earlier as action theories

level. A learning project can thus be regarded as a small learning network, with different actors, including their respective theories and positions, who undertake learning activities around a central work-related problem. They engage in learning processes that comprise the development of a learning program, the development of a learning policy, and the qualifying process, which result in certain structural arrangements. Figure 2.1 shows the conceptual model of learning projects viewed as small learning networks.

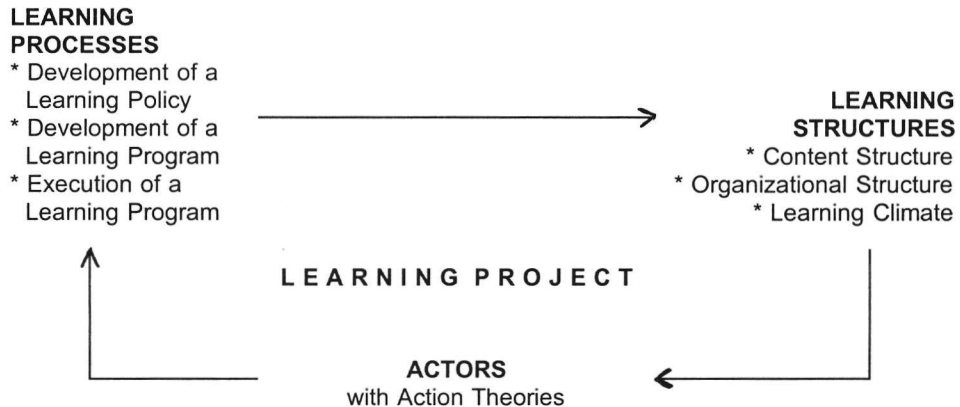


Figure 2.1. A Learning Project Viewed as a Learning Network.

2.3.2 Diversity in Learning-project Structures

The diversity in learning structures is captured along three dimensions, namely a vertical, horizontal, and an external dimension. At the end of each of the three dimensions a theoretical type is to be found, called a vertical, horizontal, or external learning project, respectively. A fourth theoretical type is postulated at the heart of the model which is referred to as a liberal learning project. The three-dimensional model with the four theoretical types is presented in Figure 2.2. Empirical learning projects are expected to take intermediate positions on all three dimensions, locating them somewhere within the three-dimensional space.

2.4 Theoretical Diversity in Work-related Learning Projects

2.4.1 Theoretical Types of Learning Projects

The learning-network theory thus postulates different theoretical types of learning projects. In a **liberal** learning project, individual workers themselves organize the learning that they think necessary to deal with their individual work-related problems. They team up with people who experience similar problems to learn from each other for their individual

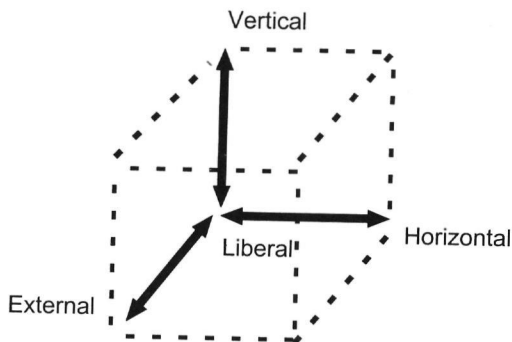


Figure 2.2. Four Theoretical Types of Learning Projects in a Three-dimensional Space.

benefit. Tough's (1978) notion of major learning efforts is in line with this type. In a **vertical** learning project, trainers and managers organize learning activities and accompanying work measures for workers. Workers take part in the qualifying process but contribute only moderately to learning policy and program development. Robinson and Robinson's (1989) training for impact approach is illustrative for this type. In a **horizontal** learning project, workers systematically tackle work-related problems and reflect on the experience in order to learn. This type draws on Marsick and Watkins' (1990) notion of action-reflection learning.

Above, we have presented some evidence from the literature of diversity in learning projects, which enabled us so far to distinguish between a liberal, a vertical, and a horizontal type. The **external** learning project type is added to our range of possible learning projects by the learning-network theory. It refers to learning within a profession and holds that actors outside the organization (e.g., within the professional discipline) can make a considerable contribution to the learning of professionals. Obvious examples of professionals are medical doctors, lawyers, academics, and to a lesser extent nurses, and teachers. Their learning is mostly inspired by developments outside their organization, within their professional discipline. They acquire new working methods by participation in continuing professional development (Nowlen, 1988) to keep abreast of recent insights. Attending conferences and seminars, collegial consultation, reflection-in-action (Schön, 1983), introducing new working methods in an investigative and reflective manner, are well-known learning activities for professionals. Their work is adapted to these new methods. For example, Bouwen and Fry (1991) describe an expert model of organizational innovation with a strong external impulse. Robinson (1993) presents a professional development program which bears close resemblance to an external learning project.

2.4.2 The Relationship between Learning and Work

Applying the learning network approach to learning projects allows us to expand the diversity in learning projects and still have a coherent conceptualization. A comparison of the learning network approach with other conceptualizations of learning projects leads to the conclusion that, even though other approaches address *work-related* learning projects, the relationship between the learning that takes place and the work that is performed is rarely clarified. Implicitly, the dominant line of thinking seems to be that to solve work-related problems, employees need to participate in learning activities that provide them with the right competencies to deal with these problems. Problem solving and learning are conceived of mainly as reflection or competence development. The notion that work itself can be developed by the learners in order to reduce their problems is not much advocated in other approaches. But problem solving can comprise both action and reflection, both work development and competence development. Although Marsick and Watkins (1990) acknowledge this notion, like much literature on organizing learning their approach underscores the significance of power relations associated with learning and work. People in organizations tend to have different views and there are power structures that prevent equal participation in learning and work. These power structures usually remain implicit, although in this respect there are some notable exceptions, both in the field of work-related adult learning (Edwards, 1993) and in similar fields, such as adult educational program planning (Mills, Cervero, Langone, & Wilson, 1995; Cervero & Wilson, 1996), and organizational change (Pichault, 1995).

The learning-network theory (Van der Krogt, 1995) provides a typology of learning projects that refers explicitly to the relationship of competence development with work development and to the power relations between the actors involved. In the next section we will examine the empirical foundation of this learning network approach to learning projects.

2.5 Empirical Diversity in Work-related Learning Projects

In a study of four learning projects conducted by organization consultants, Poell and Van der Krogt (1997) concluded that the learning projects could be distinguished into two types, namely a horizontal-external and a vertical-liberal type. The horizontal-external type was characterized by an emphasis on group reflection and the development of professional norms. The vertical-liberal type comprised several training and learning activities, collected by learners who operated mostly individually within the learning group. The individuals used the group as forum for the exchange of learning experiences. Van der Krogt and Warmerdam (1993; 1997) studied four learning projects carried out by probation officers. These learning projects were also found to differ considerably. Two of these projects were labeled as vertical training projects, while the others combined elements of the horizontal and external types. An external learning project was found to be a suitable arrangement for professionals and managers to learn and improve their work

together, provided that different learning strategies are made explicit and negotiated Poell, Van Moorsel, and Van der Krogt (1997) presented a successful external learning project entirely planned and conducted in an investigative manner by a group of medical doctors, where managers and trainers played a facilitative role Only twice, progress in this learning group was temporarily prevented 1) when managers failed to subsidize further learning activities, which shows their power base, 2) when trainers offered a formal course, based on the insights gradually acquired during the informal investigative phase of the project The medical doctors failed to attend these formal course meetings and preferred to learn the way they were used to, namely informally during work and on-the-job Problem solving in this external learning project was clearly a combination of competence development and work development

We have presented some modest empirical evidence to support the learning network approach, which resulted in a typology of learning projects Both the learning-network theory and this empirical evidence clarify how problem solving can be organized in a range of different learning projects Clearly, more empirical research will have to be undertaken for further clarification Even if we adopt the learning project typology offered by the learning-network theory, a number of intriguing questions still remain We will return to these shortly

2.6 Conclusion

2.6.1 Both Competence Development and Work Development

Our argument has been built on a series of assertions First, we argued that projects are better suited to organize learning systematically than formal education Second, we claimed that learning projects offer more possibilities to organize learning around problem solving than training projects do Third, we presented some approaches to work-related learning projects The application of a learning network approach led us to conclude that most other approaches tend to overstress the development of employees' competencies, while they underscore the importance of simultaneous work development What is more, the relationship between learning and work is usually left implicit Learning projects are mostly aimed at having employees participate in learning activities that adapt their competencies to changed work structures 'Learning while doing the job' is treated as a didactic principle for employees to obtain the necessary competencies so as to function adequately It is part of the content structure of the learning project

We have argued that this is too limited an approach Solving work-related problems is not simply a question of designing suitable learning projects The relationship between learning projects and the work that learners perform should be made more explicit Employees in learning projects should not be treated as learners only, they should also be regarded as participants in work processes that offer learning possibilities Learning projects can, therefore, be used to have employees simultaneously develop their work and their competencies by solving the problems they encounter in their work By investigating

different work processes and reflecting on the experience, employees learn while developing their own work at the same time. In this way, the learning potential that the job offers can even be enhanced. This is an iterative developmental approach, that takes into account the work processes in which actors participate.

This study demonstrates that work-related problems can be solved by a variety of learning project types, each of which has its own way of bridging the gap between employees' competencies and work requirements, depending on the type of work-related problems that actors encounter. The key to the question is that employees and work are developed simultaneously by employees' participation in work-related learning activities. This can be termed a dynamic strategy of mutual adaptation, which is quite different from the static strategy of employee adjustment underlying most training arrangements. Using the learning-network theory, several options in organizing learning projects were explored. Making the relationship between learning and work development explicit is a crucial element in this approach. At this point, four questions can be raised to guide further research in this field.

2.6.2 Questions for Further Research

1. In what respect do learning projects differ? There seem to be at least three underlying dimensions. First, who is the most powerful actor in the learning project? Is it the learners, the managers, the trainers, the external consultant, the professional discipline, or even other actors? The most powerful learning actor can try to impose his ideas on other actors, who will in turn try to look after their own interests as much as possible. These interactions between actors result in certain learning processes and structural arrangements. Second, how much adjustment of the learning program during the course of the project is allowed? If policy making and program development are viewed as separate activities prior to qualifying and learning processes there is little room for adaptation underway. If, however, qualifying and learning are continually fed back into program development and policy-making processes the learning project turns out much more flexible. This may especially be the case in unstructured problem solving or when 'the right way' to proceed is contended. Third, which content structure is there to the learning project? This is signified by the nature of the core theme, which can be oriented toward subject matter or toward organization development. It is also embodied in the kind of learning activities undertaken, which can range from on-the-job activities (e.g., reflection-in-action, asking colleagues for help) to off-the-job activities (e.g., training sessions, inviting subject experts) and which can include formal, informal, and incidental learning activities.

2. Are problem solving and learning merely viewed as competence development or is there also room for simultaneous work development? In other words, is a strategy of mutual adaptation or a strategy of employee adjustment employed?

3. Even when a strategy of mutual adaptation is employed, this may be problematic in some respects. The learning-network theory expects learners to be inclined to adapt their work to their present qualifications as much as possible, whereas other actors (e.g.,

managers, trainers) can press them to adjust their qualifications to new work requirements. An interesting question then is, what strategies do different actors employ in learning projects to adjust employee qualifications and work requirements to each other? How do they bring about learning which is relevant both to employee development and work improvement? Which patterns of interactions can be expected when these actors engage in program development, policy-making, and qualifying processes? How are the differences between the theories and positions of various actors resolved for a satisfactory learning project to emerge?

4 If all learning projects involve group learning activities, work-related problem solving, and deliberate reflection on experience, how is it that real-life learning projects prove to be so different from each other, as was shown earlier? The explanation why empirical learning projects differ seems to be twofold. First, there is a relationship between learning projects and the kind of work that is performed. For instance, the work of medical doctors is associated with other ways of learning the profession than the work of insurance agents. Likewise, elementary schools teachers keep up with their profession differently than organization consultants do. Some types of work offer more and different learning possibilities than other types. Second, learning projects differ because the actors involved have different theories, strategies, and possibilities to act upon these. For instance, workers may want to adapt their work to their own ideas of quality, but managers can try to impose their views of quality on workers by redesigning the work schemes. Trainers may want to offer well prepared learning programs to workers, but workers can turn to their professional association for learning programs that fit better with their need for continuing development and job security. Managers may try to use trainers to translate new work policies into efficient training programs, but trainers can have their own views on what constitutes a professional learning program. Managers may put organizational issues such as quality improvement on the agenda, but professionals have their own external frame of reference to deal with such matters. Still, managers can manipulate conditions and facilities for professionals' learning. A close inspection of the interaction processes between these different actors can yield a better understanding of the processes within the learning network of organizations.

Although a partial answer to these questions can be given, future empirical research will have to address these topics in a systematic way. It is our belief that the learning-network theory offers a helpful tool to guide this research.

Chapter 3. Project-based Learning in Professional Organizations⁴

This study describes a method of project-based learning applicable in work organizations. The essence of this method lies in the connection of learning and working in group projects, fine-tuned to the needs of the participants and to the possibilities offered by the organization. The method is conceptually underpinned by the learning-network theory (Van der Krogt, 1995, Van der Krogt & Warmerdam, 1997). Following an overview of the characteristics of the project-based learning method, a comparison is made with other action-based methods. An empirical illustration is provided by a discussion of four learning projects conducted in regional probation institutions, which are found to differ from each other in several respects. It is concluded that the project-based learning method can yield a surplus value compared to more traditional types of education and training. However, it also makes higher demands on the learning and work systems of the organization and on the involvement of the learners themselves.

3.1 Introduction

Work is an important context for adult learning. Learning in the context of work can take various shapes. Training courses provide learning experiences that are pre-structured by professional educators, while learning from every-day work situations can be more or less meaningful depending on the learning potential offered by the job. The advantage of formal training is its efficiency in transferring clear-cut knowledge and skills. The problem with formal training is that its usefulness seems limited to well-defined qualification needs. Work-based learning in every-day situations, on the other hand, has the advantages of being adaptive, just-in-time, and meaningful to the employees. The problem here is that it is hard to systematize these work-related learning situations into a coherent set of activities. In other words, there is not necessarily method in it (cf. Selener, 1996). A well-balanced method of project-based learning could overcome the disadvantages of both formal training and unstructured every-day learning whilst capitalizing on their strengths.

What does such a method of project-based learning in organizations involve? The key to this question lies in establishing a proper connection between work and learning. This study describes some experiences with a method of project-based learning in organizations. The method is action-based and focuses on tailoring the links between learning and work (Van der Krogt & Warmerdam, 1993). Before going on to describe our practical experiences with the project-based learning method, we will first describe its main principles.

⁴ This chapter has been accepted for publication as Poell, R. F., Van der Krogt, F. J., & Warmerdam, J. H. M. (in press). Project-based learning in professional organizations. *Adult Education Quarterly*.

3.1.1 Phasing the Learning Path

Within project-based learning, organizing the learning path encompasses three phases: 1) a diagnosis of existing condition, developments, and problems; 2) data feedback and the formulation of learning themes; and, 3) the organization of one or more learning projects. Although we refer to these three interrelated activities as phases, in practice they need not always be strictly separated in time

The first step entails an exploration of existing policy developments and performance problems within the organization. At the same time, an investigation is made into the available opportunities for, and impediments to, learning activities. These investigations are carried out by analyzing reports and doing interviews with key informants in the organization. The diagnosis is aimed at finding starting-points for the form and content of the learning projects to be conducted. Core questions are: What should be learned? And how should it be learned? The diagnosis results in a picture of the work system, including perceived problems and developments, as well as of the learning system, including its formal and informal elements. It also provides an insight into the ideas and interests of relevant actors in the organization.

Subsequently, the data are assimilated into a brief written report and fed back to the organization. This report discusses subjects like the structure of the organization, basic external and internal developments, focal points in management strategies, learning opportunities and impediments encountered in the organization, the learning needs of the participants, and their ideas on how to frame the learning project. It also contains recommendations for themes that might be suitable for learning projects. The report is discussed at a meeting with members of the organization, in order to check for accuracy and to define specific themes for learning projects. The themes will ultimately be chosen by the participants themselves.

The next step consists of organizing one or more group learning projects. A learning project involves: 1. **a learning group**: a number of employees who are prepared to conduct a range of learning activities together; 2. **a learning theme**: an issue relevant to the daily work of the participants about which they want to learn; 3. **a set of learning activities**, taking place both in formal and informal settings. The participants decide for themselves how the project should be set up, which learning activities will be conducted and who should undertake them. These decisions can be laid down in a project plan. The plan describes the central theme of the learning activities as well as the learning objectives defined by the participants. In addition, the project plan may indicate which learning settings will be addressed, both formal and informal in nature.

3.1.2 Connecting Learning with Work

Much more than in traditional training programs, the project-based learning method attempts to provide connections between learning and work. Five types of connections can be distinguished.

First, the learning activities are centred around a theme with actual relevance to the organization. This may be a work-related problem, an organizational problem, or an

evaluation of existing work practices or policies. It may also bear on a new policy initiative which is not problematic in itself but must be dealt with at short notice. It is essential to select a theme with which the project participants have to cope in their daily work.

Second, the learning project is aimed at connecting formal learning settings off the job with informal learning settings on the job. Employees can learn in formalized courses or training programs, but also, and often predominantly, from their work experience on the job. These informal learning processes take place when employees, for instance, experiment with a new work method, carry out a difficult task, consult colleagues about work problems, take part in supervision sessions with tutors, or evaluate policy activities. Within the thematical framework of the learning project, these activities can be combined with formal learning activities into a coherent set.

Third, learning projects also try to combine individual and collective learning activities at work. The primary aim of the learning project is to have individual participants acquire new qualifications that will enable them to improve their own professional performance. Acquiring such qualifications, however, is not exclusively a process that each participant goes through individually, or separate from work. A learning project offers participants many opportunities for group learning at work through the exchange of insights, experiences, and opinions. This can be achieved with other participants and with non-participants, such as colleagues from other departments, colleagues from similar organizations, and experts from outside the organization. In learning group sessions, the participants reflect on the learning activities conducted and their contribution to a new understanding of the core theme.

Fourth, the method attempts to establish a link between the learning system and the organization of work. On the one hand, a learning project will be much more deeply embedded in the normal work organization than an (external) course. It will also create more favorable conditions for input from practice and for the application of acquired knowledge in practice. On the other hand, the learning project is not embedded in the organization to such an extent that there is a danger of other policy priorities putting too much pressure on the learning activities. The latter often happens to traditional on-the-job training.

Finally, the project-based learning method aims to combine the individual acquisition of new qualifications with the improvement of work in the organization. The underlying principle to this is learning-by-doing, or extending the individual action repertoire by collectively solving real-life work problems. An organization that gradually develops learning projects tailored to its own structural and cultural conditions will thereby enable its employees to be constantly responsive to new developments in their work.

3.2 Theoretical Underpinnings of the Project-based Learning Method

The learning-project method is action-based, in that it focuses on broadening the action repertoire of the participants by their engaging in concrete work-based learning activities

supplemented by group reflection. In this respect, there are clear parallels with action-based learning methods, such as action learning (Revans, 1980; McGill & Beaty, 1992), action research (Cunningham, 1993), action-reflection learning (Marsick & Watkins, 1990), and organizational learning through inquiry and dialogue (Argyris & Schön, 1978). Before going on to examine some practical experiences, we will confront our method with these action-based learning methods. This results in a theoretical framework for the learning-project method based on a network perspective (Van der Krogt, 1995; Van der Krogt & Warmerdam, 1997).

3.2.1 Action-based Learning Methods

A common characteristic of all action-based learning methods is their orientation towards changing people and/or their organizations. The methods may vary with respect to their emphasis on action or reflection, and regarding their focus on self-direction or intervention by a facilitator (Watkins & Brooks, 1994). Figure 3.1 provides an overview.

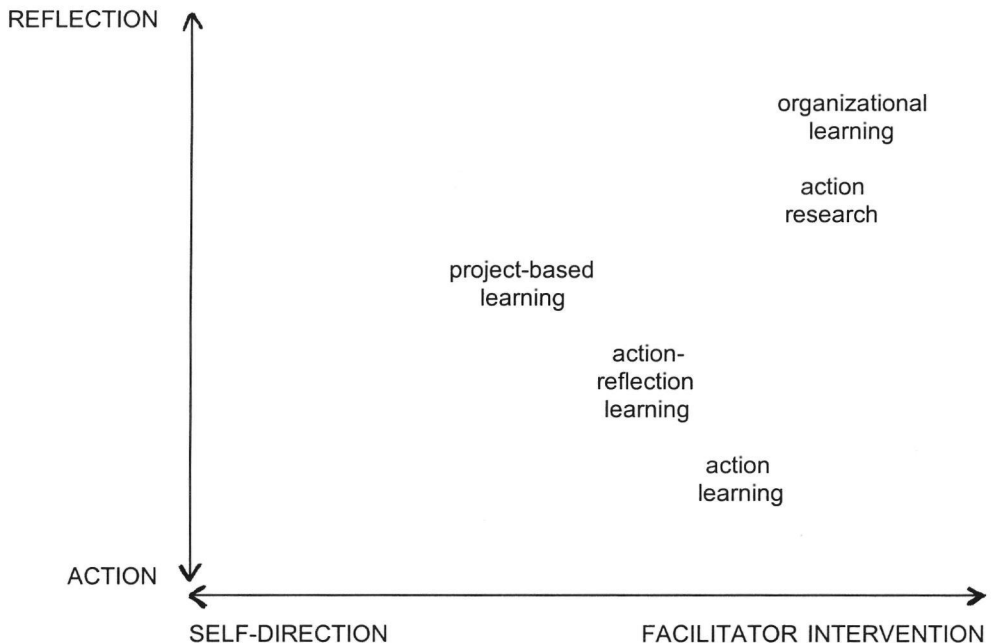


Figure 3.1. A Comparison of Action-based Learning Methods.

The action-learning sets described by McGill and Beaty (1992), who draw on the work of Revans (1980), are very much focused on learning-by-doing, whereas Marsick and Watkins (1990) make a point of adding a specific reflection component to the learning sets. The working principles of these sets are similar, in that a group of managers is

assisted by a set facilitator in solving the real-life problems confronting each of them individually. The group context is used as a means of sharing experiences and challenging individually held assumptions. The facilitator normally acts as a learning coach, to help the group members interpret their actions in new ways and thus learn (cf. Brookfield, 1986). A diagnosis of the problem is usually part of the activities, but the main focus is on action. In action research, much more attention is paid to a (repeated) diagnosis of the participants' situation and the occurring changes (Cunningham, 1993). The information gained is used to develop an organizational development plan specifying the activities to be undertaken by the participants. The facilitator plays an important role as the researcher guiding data collection and analysis. Reflection on the problematic situation of the participants is very much emphasized in this method. The latter is even more so the case in organizational learning through inquiry and dialogue (Argyris & Schön, 1978). The facilitator helps a group of people become aware of unchallenged theories guiding their actions, so the mechanisms underlying work performance are analyzed. Group reflection is stressed by engaging in inquiry and dialogue about people's actions in concrete work situations. Development plans are drawn up to try and change people's assumptions and, hence, their actions.

Elements of all these action-based learning methods are found in the method of project-based learning, but the latter differs from the former ones in several respects. Figure 3.1 indicates that project-based learning tries to balance action and reflection, as well as self-direction and facilitator intervention. From this perspective, it resembles most the action-reflection learning method described by Marsick and Watkins (1990). Inquiry and dialogue, questioning assumptions, and diagnosis are important elements in project-based learning, but only in conjunction with actual work improvement by the participants themselves. What exactly is it that needs inquiry or questioning? The method of project-based learning takes into account distinct elements of the learning context. Specifically, these include the way work is organized, the existing learning system, and the ideas and interests of those involved. Action-based learning methods, on the other hand, seem almost context-independent in this respect. They use a particular set of learning strategies and beliefs, regardless of the specific work and learning context in the organization.

The notion that some types of work offer more possibilities for learning than other types, which will influence the learning projects, is a crucial one not often found in the action-learning literature. For instance, individual Tayloristic work offers fewer (and different) learning opportunities than managerial jobs in which people have frequent interactions. Another point worth considering is the notion that existing learning arrangements direct to a greater or lesser extent the kind of activities the participants can undertake. Unlike the action-based learning methods, the method of project-based learning focuses explicitly on organizing links between learning and work improvement, through constant reflection-in-action (Schon, 1983). In addition to that, the method of project-based learning assumes that different actors prefer different strategies in organizing learning and improving work. Learning projects can be regarded as frames of interaction between the actors striving to secure their interests in the field of learning and

work. The power play is an essential feature of the project-learning method, one not explicitly addressed in action-based learning methods.

3.2.2 A Network Perspective on the Project-based Learning Method

The method of project-based learning employs a network perspective. The learning-network theory (Van der Krogt, 1995; Van der Krogt & Warmerdam, 1997) assumes a relation between the learning network and the labor network of an organization. Actors play an important role in the learning and labor networks. The participants in the learning network, such as trainers and employees, are called learning actors. Because most learning actors also participate in the labor network, there is a relationship between the learning and the labor network. Work actors include managers, employees, and trade unions. Learning and work actors influence the networks in which they operate on the basis of the positions and action theories they hold, as Figure 3.2 shows. They interact with each other to develop learning programs, policies, and activities. Actors have learned from their actions, and from the reflection on the learning-group's (inter-)actions, when their theories-of-action have changed (Argyris & Schön, 1978). The interactions gradually become institutionalized in certain structural arrangements, regarding the content and the organization of learning programs, and the learning climate. These learning structures in turn influence the opportunities of actors to participate in the labor and learning networks. Figure 3.2 gives an overview of the way in which the learning network operates.

LEARNING PROCESSES

- * Development of Learning Policies
- * Development of Learning Programs
- * Execution of Learning Programs

LEARNING STRUCTURES

- * Content Structure
- * Organizational Structure
- * Learning Climate

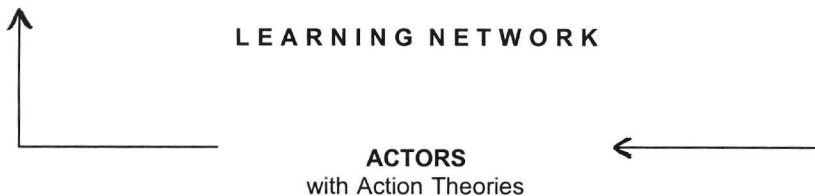


Figure 3.2. The Learning Network of an Organization (Van der Krogt, 1995).

The learning-network theory next assumes that learning networks can be organized in different ways. In order to describe the differences in learning networks, four theoretical

types are proposed. In a **liberal** learning network, individual learners organize their own learning process and create their own learning programs. They decide what they want to learn and organize a loosely coupled network of people to help them achieve it. The learners take care of co-ordination and control of learning themselves. The learning program consists of individual activities and is relatively unstructured. In the **vertical** learning network, centralization and hierarchy play an important role in the co-ordination and control of learning. The management (and the educators) of the organization will draw up policy plans, design learning programs and give supervision to the learners. The learning program is linearly planned and function oriented. In the **horizontal** network, learning groups play an important role. They develop learning programs together in an incremental way. In these cooperative activities, a lot of attention is given to the development of shared norms and views on learning. The learning program is problem oriented and integrated with daily work. In the **external** learning network, actors outside the organization are crucial. External inspiration (e.g., from the scientific community or a professional association) has a great impact on this learning network. Outside actors can introduce new scientific knowledge (e.g., a new working method) into the organization and influence the way in which inside actors learn about it. The learning program is externally co-ordinated and profession oriented. An overview of the four theoretical types of learning networks is provided in Table 3.1.

Table 3.1.
Four Theoretical Types of Learning Networks.

	Liberal Learning Network	Vertical Learning Network	Horizontal Learning Network	External Learning Network
Dominant Actor	individual learners	managers and trainers	learners as a group	professional associations outside
Organization of Learning Processes	isolated activities	linear planning	organical	externally co-ordinated
Content Structure (Profile)	unstructured	task or function oriented	problem or organization oriented	profession oriented
Organizational Structure	loosely coupled	centralized	integrated	externally inspired

For the purpose of this study, we regard learning projects as small learning networks on the group level (Poell & Van der Krogt, in press; Poell, Van der Krogt, & Wildemeersch,

1997) This enables us to describe the action theories, processes, and structures as they develop in actual learning projects. It also enables us to distinguish between four different theoretical types of learning projects that can be organized. We will apply these insights to some practical experiences with the method of project-based learning below.

3.3 An Empirical Illustration of the Project-based Learning Method

In order to demonstrate the effect of the project-based learning method in practice, we will describe some experiences with projects carried out in Dutch probation institutions. Practical experiments were set up in four institutions that are more or less characteristic of the field. The focus was on the management team of each organization and the work problems they encountered. In all four cases, external consultants were called upon to make a diagnosis of the learning network and the labor network of the institution. They took care of data feedback to the participants and acted as group counselors during the learning projects that followed. They also assisted the group in evaluating the impact of their learning projects. We will describe and analyze the four experiments in more detail below. Table 3.2 provides an overview of the diagnostic, feedback, and learning-project phases in each of the four cases.

3.3.1 *Diagnosis and Data Feedback*

3.3.1.1 Diagnosis of Networks and Action Theories The consultants started with a thorough diagnosis of the four organizations and current developments in the field of probation. The focus was on the organization of the work of the management team, on the way their learning was organized, and on their ideas about learning and work in the probation institutions. The diagnosis was carried out by studying policy documents and interviewing core actors.

The organization of work of all four management teams (referred to as the labor network) was found to be fairly autonomous in nature, offering the managers ample opportunities to self-direct experiments. The management team in two institutions ('Fire' and 'Earth') turned out to be mostly oriented towards work content issues, such as the introduction of new working methods for probation officers. The work action-theories of the managers in the other two institutions ('Air' and 'Water') were found to focus on work organization issues, such as internal communication.

The learning network in all four institutions was deemed problem oriented in nature, meaning that learning-by-doing and self-directed problem solving are crucial elements in the way the managers usually learn. The learning network in 'Fire' was also characterized by a task orientation, in that the institution employs a staff member taking care of more or less standardized learning programs for the organization. The learning action-theories of the consultants (as core actors in the learning network) were oriented towards having the participants self-direct their learning and integrate it with solving daily work problems.

Table 3.2.

The Diagnostic, Feedback, and Learning-project Phases in Four Practical Experiments.

	'Working in Projects' (Fire)	'Implementing Alternative Sanctions' (Air)	'Improving Decision Making' (Earth)	'Improving Internal Communication' (Water)
DIAGNOSIS				
Learning Network	<i>task and problem oriented learning by doing, explicit reflection, structured work development projects</i>	<i>mainly problem oriented learning by doing and explicit reflection</i>	<i>mainly problem oriented learning by doing</i>	<i>mainly problem oriented learning by doing</i>
Action Theories of Actors in the Learning Network	<i>consultants' theories 'self-directed learning integrated with daily work', no explicit diagnosis of participants' theories turned out to be 'self-directed learning integrated with daily work'</i>	<i>consultants' theories 'self-directed learning integrated with daily work', no explicit diagnosis of participants' theories turned out to be 'self-directed learning integrated with daily work'</i>	<i>consultants' theories self-directed learning integrated with daily work', no explicit diagnosis of participants' theories turned out to be 'having consultants counsel organizational change efforts'</i>	<i>consultants' theories 'self-directed learning integrated with daily work', no explicit diagnosis of participants' theories turned out to be 'receiving structured management training'</i>
Labor Network	<i>semi-autonomous work in management</i>	<i>semi-autonomous work in management</i>	<i>semi-autonomous work in management</i>	<i>semi-autonomous work in management</i>
Action Theories of Actors in the Labor Network (Participants)	<i>focused on work content and the development of work methods</i>	<i>focused on the organization of work</i>	<i>focused on work content</i>	<i>focused on the organization of work</i>
FEEDBACK				
Feedback of Diagnostic Data into Organization	<i>learning-group meeting to discuss consultants' findings, general approval, consultants suggest learning themes concerned with the organization of work</i>	<i>learning-group meeting to discuss consultants' findings, general approval, consultants suggest learning themes concerned with the work content</i>	<i>learning-group meeting to discuss consultants' findings, general approval, consultants suggest learning themes concerned with the organization of work</i>	<i>learning-group meeting to discuss consultants' findings, general disapproval, consultants suggest learning themes concerned with the work content</i>
LEARNING PROJECT				
ACTORS	<i>1 executive, 1 staff member, 3 team leaders (n=5)</i>	<i>2 executives, 4 team leaders (n=6)</i>	<i>2 executives, 3 team leaders (n=5)</i>	<i>1 executive, 1 staff member, 4 team leaders (n=6)</i>
PROCESSES				
Development of the Learning Program	<i>participants create their own learning program, helped by consultants</i>	<i>participants create their own learning program, helped by consultants</i>	<i>participants use consultants to create a learning program encompassing organizational change</i>	<i>consultants design a training program for participants</i>
Conducting Learning Activities	<i>participants engage in learning activities, coached by consultants</i>	<i>participants engage in learning activities, coached by consultants</i>	<i>participants change organization, guided by consultants</i>	<i>participants enrol in training program, designed by consultants</i>
Shaping a Learning Policy	<i>participants make a learning-project plan, discuss it with consultants</i>	<i>participants make a learning-project plan, discuss it with consultants</i>	<i>consultants advise participants in making an organizational change plan</i>	<i>participants decide they need a training course</i>
STRUCTURES				
Content Structure (Global Orientation; Learning Situations)	<i>problem and profession oriented literature study, learning-by-doing, reflection on experiences, inviting external experts, training</i>	<i>profession oriented literature study, learning-by-doing, inviting external experts, training</i>	<i>profession and problem oriented literature study, discussion, learning-by-doing, reflection on experiences, consultation by external experts, training</i>	<i>function oriented a management training course including case reflection and sessions with external experts</i>
Organizational Structure	<i>horizontal, egalitarian participants decide, consultants monitor learning processes</i>	<i>external, professional participants decide, consultants provide external inspiration</i>	<i>external, professional participants decide, consultants provide external guidance</i>	<i>centralized, formalized consultants design training program, participants enrol</i>
Learning Climate	<i>integrated</i>	<i>innovative</i>	<i>innovative</i>	<i>regulated</i>
TYPE OF LEARNING PROJECT	<i>horizontal-external</i>	<i>external</i>	<i>external-horizontal</i>	<i>vertical</i>

Although no explicit diagnosis was made of the learning action-theories of the management team members, in 'Fire' and 'Air' they were found to parallel the consultants' ideas. In 'Earth', the managers viewed learning as undertaking organizational change efforts under process guidance by the consultants, whilst 'Water' saw the managers expressing a need for a formal management training course. The diagnosis data are displayed in the upper part of Table 3.2.

3.3.1.2 Data Feedback and Articulation of Learning Themes The consultants wrote a report containing their findings for each institution, which was discussed in a meeting with the participants. The report encompassed the diagnostic data about the labor and learning networks and the action theories of the actors. In three institutions, the consultants' interpretations encountered approval, but the managers in 'Water' expressed their disapproval about the consultants' ideas. In the latter case, the feedback session was used to adjust the diagnosis into a shared image of the institution's situation and needs.

Each report also contained suggestions by the consultants for learning themes. In order to have the upcoming projects add new elements to the organization, the consultants suggested themes deemed relevant but receiving little attention in the management policy so far. For instance, an institution mostly focused on work content issues was advised to elaborate themes concerned with work organization, and vice versa. The feedback sessions served as a platform for the generation of more specific ideas for learning-project themes on the basis of the consultants' suggestions. The feedback sessions ended with a substantial view of the kind of group learning projects that the participants were going to carry out, as well as the possibilities the organization could offer them in terms of learning potential. The feedback data are displayed in the middle of Table 3.2.

3.3.2 The Learning Projects

At this stage, the four institutions very much chose their own way in setting up learning projects. This resulted in four different cases, which will be described in some detail below.

3.3.2.1 'Working in Projects' The 'Fire' Learning Project Four managers and one staff member formed a learning group devoted to developing a specific method of project-based work. Within the context of this joint goal, all participants formulated their individual learning objectives. The group wanted to develop a working model that might serve as a common reference point for all the units within the institution. In order to achieve this, they developed a program containing various learning activities, such as studying a handbook together, examining earlier projects in the institution, having an external expert critically examine both the model and current practice, training and practising at setting up an imaginary project under supervision of an external expert, formulating a new model. The consultants coached the participants in the development of this program. The working relation among the consultants and participants was fairly egalitarian, in that there was a joint responsibility for organizing the learning project. All involved were satisfied with these arrangements.

3.3.2.2 'Implementing Alternative Sanctions' The 'Air' Learning Project Six managers took part in this learning group, organized around the issue of alternative sanctioning by probation institutions. Just like in 'Fire', the participants took all relevant decisions in this learning project themselves, whilst seeking additional external inspiration from the consultants. Learning situations were connected to the conception and continuous adaptation of a strategic plan for the institution by the participants, with a strict view to self-reflection and evaluation of learning along the way. Additional external inspiration was sought from studying together recent literature on alternative sanctioning. In this way, the group learned new insights from the professional field of probation institutions. The consultants were asked to provide ideas for learning activities in the daily work situation and frames of reference to monitor the learning progress of participants. Both the participants and the consultants were pleased with the learning progress made.

3.3.2.3 'Improving Decision Making' The 'Earth' Learning Project Five managers participated in this learning group, which focused on changes in the internal organization of the institution. A consultant was asked to guide a decision-making process with the participants by organizing group discussion, reflection, consultation, and encouraging self-study. Due to their heavy daily work load, participants did not always find time to reflect systematically on their own functioning at work. The consultant more or less acted as an advisor or counselor for the participants in setting up an organizational change plan, which was later implemented. The learning that took place focused on the participants' increasing organizational awareness. Although the consultants had to accept a different kind of learning project than they intended, the participants were content with the way the counseling program turned out for them.

3.3.2.4 'Improving Internal Communication' The 'Water' Learning Project This learning group, aimed at improving the internal communication in the institution, consisted of five managers and one staff member. They demanded from the consultants a more structured approach than open project-learning from the very start. This finally resulted in a traditional two-day management training program, focused on improving some instrumental skills of the participants. The program encompassed training methods such as video-training, case discussions, and role play. The training was delivered by a professional management trainer. Contrary to the other three cases, no additional learning activities in daily work were part of this learning project. The relation between the consultant and the participants was more centralized here than in the other cases. Although a big effort was necessary to get the learning action-theories of the consultants and the participants in line, the resulting learning project suited the needs of the participants well.

3.3.3 Comparing the Cases

Learning projects can be organized in various ways, as the lower part of Table 3.2 illustrates. The four cases turned out differently with respect to the action theories of the participants, the interaction processes in the projects, and the structures that resulted from the interactions. In all cases, the method was effective in the sense that the participants

could relate to the arrangements that resulted from the diagnostic and data feedback stage. Although some groups (notably 'Earth' and 'Water') did not comply to the open project model wished for by the consultants, the choices made were tailored to the participants' needs and the organization's possibilities. Using terms from the learning-network theory, the 'Fire' case can be referred to as a horizontal-external learning project, 'Air' is labelled external, 'Earth' is termed an external-horizontal hybrid, and 'Water' a vertical learning project.

3.4 Conclusion: Lessons Learned in Applying the Project-based Learning Method

Using the learning-network theory to interpret the practical experiences, we are able to draw some conclusions regarding the method of project-based learning. First, even if the diagnostic and data feedback phase are carried out similarly in various settings, the resulting learning projects can come out very differently (cf. Table 3.2). Second, despite these differences, each of these learning projects can be fairly effective to the participants and the consultants. And third, the reason for this success seems to be that each project is geared to the participants' interests and the possibilities offered by their organizations, as diagnosed in the first phase of the method. These conclusions are elaborated below.

3.4.1 The Effectiveness of Different Learning Projects

The impact of the practical experiments was assessed by the participants and the consultants through the completion of a twelve-question evaluation form focusing on the learning process and outcomes. The answers were compared and discussed in a final meeting of each learning group. The method of project-based learning was deemed effective mainly because the open approach combined with the well-considered use of diagnostic data allowed for tailored arrangements. Some elements were common to all cases, namely:

- 1 learning activities were centred around work problems,
- 2 possibilities for learning within the organization were recognized, exploited, increased,
- 3 informal learning settings on the job were connected with more formal learning settings off the job,
- 4 the participants took most decisions with respect to their learning project, including in one case the possibility of enrolling in a traditional management training,
- 5 the consultants advised the participants and made sure there was a balanced combination of supervision and self-supervision in defining the learning objectives, in recognizing, using, and connecting the learning settings, in developing the learning path, and in applying the newly acquired knowledge and skills in practice.

Despite these common features, the actual learning projects turned out to be very different from each other. Three of the cases were characterized by significant external inspiration from the participants' professional discipline, while two of those also featured problem-based organization-specific (horizontal) elements. The fourth case was entirely different, in

that the (vertical) training arrangements were much more formalized and centralized (cf Table 3 1) The notion that work-related learning projects can be organized in various ways, all of which can be considered more or less effective by the participants and the consultants, is a prime conclusion in this study

The added value of applying the learning-network theory to the learning-project method is that it enables us to make these distinctions (cf Figure 3 2) Thereby, from the beginning to the end of an experiment, the consultants and the participants are able to frame the existing conditions and their experiences as they occur The learning-network theory thus becomes a useful frame of reference in the learning-project method

3.4.2 Taking Work Systems and Action Theories into Account

A first lesson learned thus is to avoid one-best-way thinking in project-based learning Learning arrangements in organizations are always embedded in a context of work Work systems differ substantially with respect to the content of the work processes, the social relations at work and the conceptions of the dominant work actors (Mintzberg, 1979, Van der Krogt & Warmerdam, 1994) Therefore, work systems also vary with respect to opportunities for learning These differences in work systems have to be taken into account for a tailored approach

Yet, even if differences in work systems are taken into account, learning projects do not always run smoothly For some participants it is difficult to find their ways in a relatively open learning context They are not used to this way of learning Many of them deploy rather traditional conceptions of learning in the context of work Because of this, in two of the four institutions the method could be adequately applied, but in the other two it had to be adjusted in the course of the project It appears, therefore, that learning projects require certain conditions to be met in order to become effective Additional conditions are required on three levels

- 1 the organization must offer sufficient quiet and space for their staff to be able to distance themselves from the pressures of daily work and it must provide sufficient means to facilitate protracted and in-depth learning projects,
- 2 the participants in the project must recognize the necessity of investing time and effort in the project and they must be prepared to do so, they should also be able to supervise and steer their own learning process,
- 3 when necessary, provisions must be made for adequate guidance, particularly when learning objectives are made explicit, when learning settings are developed and connected, and when newly acquired knowledge and skills are put into practice

If these conditions cannot, or not sufficiently, be fulfilled, it seems advisable to opt for more structured learning programs that involve more steering by an educator The diagnostic phase is crucial in clarifying these matters for the parties concerned By discussing diagnostic data about the learning network, the labor network, and the actors' action theories, the participants and the consultants can develop learning projects that are fine-tuned to their context but that also add new elements to them The LNT provides a useful frame of reference for discussion, reflection, and action in project learning

3.4.3 Implications for Further Research

This study demonstrates, both from a theoretical and an empirical perspective, the crucial importance of the action theories of core actors in the organization of learning projects. Further research is needed into the content of the learning action theories of employees, managers, and educators. What are their mental models with regard to the organization of learning processes? The strategies that these actors employ to transfer their theories into action when they interact with other actors, and the differential role that their power base plays in these interaction processes, makes another line of research that needs to be pursued. More attention should be devoted to measuring the impact of different learning-project approaches that groups may choose to take. Some empirical work in this area has been conducted by Poell (1997), who concluded that different actors use different criteria to assess learning-project effectiveness. These differences should be made more explicit.

This study also points to the importance of the work context in the organization of learning projects. The practical experiences with project learning described above took place in professional organizations only. The work in this organizational type is characterized by a fair amount of employee autonomy and, hence, learning potential. The method's applicability and effectiveness in other kinds of organizations, for instance machine bureaucracies or simple structures (Mintzberg, 1979), remain open for research. It is our belief that the basic principles of taking into account the existing learning and labor networks, as well as the action theories of core actors, apply in other organizational types like they do in professional ones. The learning-network theory would, however, expect the kind of learning projects that result from the diagnostic and feedback phases to differ from the ones described in this study.

Chapter 4.

Characteristics and Effectiveness of Work-related Learning Projects⁵

This study demonstrates that work-related learning can be organized in different (group) learning projects. Learning projects can expand the action repertoire of participants. In a descriptive evaluation of 4 cases, the learning-network theory was used to produce descriptive categories for the analysis of learning projects. Data were collected using semi-structured interviews with 15 participants. Each category was compared with theoretical types of learning projects for characterization. Two empirical types emerged: a liberal-vertical one in which individual learning and training activities were gathered and an external-horizontal one in which group reflection and the development of professional norms were stressed. The results offer employees, managers, and trainers alternative options to organize work-related learning.

4.1 Problem Statement and Theoretical Framework

4.1.1 Problem Statement

Work is an essential context for education and learning. Learning is closely related to work in the learning and training programs that employees are involved in. There appears to be a consensus about the importance of permanent learning in the workplace (Swanson & Holton, 1997, Kalleberg, Knoke, Marsden, & Spaeth, 1996, Watkins, 1995). It is widely acknowledged that a great deal of work-related learning occurs informally, socially, and on the job (Kwakman, 1995). Most kinds of work provide a potential for learning, which is enlarged when changes in work are taking place. Therefore, informal learning in the workplace (e.g., learning-by-doing) occurs all the time. Informal learning in the workplace is attributed a vital role in organizational effectiveness (Carnevale, Gainer, & Villet, 1990).

A problem with informal learning on-the-job, compared to formal education and training, is that it is more difficult to control. It should be added, however, that this may be primarily a problem experienced by the management. Employees may not consider it a problem. Attempts by the management to control informal work-related learning are likely to result in formalized training arrangements, which can diminish creativity and self-efficacy in employees. Those who regard corporate education as a tool of management assume that education, employee development, and training are mechanisms for steering by the management. They have focused on the provision of formal courses and training programs to enable employees to perform their jobs adequately and to adapt to work changes. This is a rather limited approach, however, which can be criticized for a number of reasons.

⁵ This chapter has been published as: Poell, R. F., & Van der Krogt, F. J. (1997). Organising work-related learning projects. *International Journal of Training and Development*, 1(3), 181-190.

1 The tool-of-management approach neglects work-related learning activities

Education and training are instruments to steer learning in a formal way, but other ways in which learning is organized are ignored. Examples of the latter include experiments with alternative working methods, consultation of expert colleagues on work problems, and so forth. These and other forms of informal and incidental learning in work are vital to comprehend work-related learning processes (e.g., the transfer of training content to the job).

2 The tool-of-management approach fails to take into account that some kinds of

work are very difficult to analyse. As a result, an effective training course cannot easily be designed. The difficulty can be due to work demands that are rapidly changing (e.g., in information technology), unclear (e.g., in research, consultancy), or disputed (e.g., in care). When work demands are difficult to analyse, learning what work should be done and how it is best performed is an integrated part of work itself. This sort of learning, however, fails to be easily captured in formal training courses.

3 The tool-of-management approach ignores employees' initiatives, ideas, and

interests in work and learning. Employees tend to have their own reasons and motives to participate in learning activities. Their ideas may not necessarily be in line with the interests of the management. This discrepancy accounts for the dynamics of organization development, reorganization, innovation, education, and learning efforts. To perceive education and training solely as tools of management seems restricted, in that they can also be used by employees as tools of their personal and professional development.

The above criticism can explain why corporate education tends to fail as a tool of management. Formal training is often ineffective, because the arrangements fit neither employee characteristics nor the type of work they perform. This ineffectiveness is reflected in popular complaints, such as "transfer of training content to the job never takes place", or "people tend to resist change".

So, if mere formalization offers no effective solution to the control problem, in what other ways can informal learning on-the-job be systematically addressed in issues of organization development and innovation? How can different (informal, incidental and formal) learning activities be co-ordinated into a coherent learning program? How are the learning processes involved related to the improvement of work?

The concept of learning projects, viewed from a learning-network perspective, can be fruitful in illuminating the answers to these questions. Unlike tool-of-management conceptions, this approach allows for informal learning activities, employee interests and initiatives, and the interrelation of work and learning processes. It is our belief that work-related learning can be organized in a wide variety of ways, which will be explored in this study. We will first present some notions from the learning-network theory and then apply them to the concept of work-related learning projects, both theoretically and empirically.

4.1.2 A Network Approach to Work-related Learning

In his learning-network theory, Van der Krogt conceptualizes training systems in organizations in terms of learning networks (Van der Krogt, 1995; Van der Krogt & Warmerdam, 1997). They are created by different actors who are involved in the organization of learning processes. Actors are usually employees, managers, education and training staff, and external bodies (e.g., trade unions, professional associations, governments, commercial training agencies). Learning processes do not primarily refer to mental (internal) activities such as memorization or self-monitoring. They mainly refer to participation in (external) social-organizational activities such as program development and policy-making, which are expected to contribute to learning. Each actor participates in the organization of these learning processes according to his interests and his action theories (Argyris & Schön, 1978). An action theory consists of norms, ideas, rules, and actions. It guides and legitimizes to a certain extent people's actions; learning occurs when their action theory is changed. Learning thus results in new options for action.

The learning network of an organization is created by actors who organize three simultaneous processes: 1) the development of learning policies, 2) the development of learning programs, and 3) the execution of learning programs, which is also referred to as the qualifying process. The organization of these processes occurs in an interaction between the various interests and action theories of the actors. This interaction can take various shapes: negotiation between the actors, mutual agreement of all concerned, or plain coercion by the most powerful actor. The three processes result in structural arrangements regarding the content, the organization, and the climate of the learning network. The structures of the learning network in turn influence the action theories of the actors, because existing structures tend to limit the range of possible actions. The organization of the learning network is illustrated in Figure 4.1.

LEARNING PROCESSES

- * Development of Learning Policies
- * Development of Learning Programs
- * Execution of Learning Programs

LEARNING STRUCTURES

- * Content Structure
- * Organizational Structure
- * Learning Climate



Figure 4.1. The Learning Network of an Organization (Van der Krogt, 1995).

The learning-network theory differs from most human resource development and training literature in two respects. First, it starts from a broad range of possible learning activities instead of merely formal training. Second, it perceives the organization of learning systems primarily in terms of actor strategies, action theories, and interaction processes, instead of structures and functions. Putting real-life people (actors) instead of abstract structures in the centre of attention allows us to better comprehend how learning networks are organized and how they are modified. It brings politics and power differences to the fore.

We will now introduce the concept of work-related learning projects and apply some ideas from the learning-network theory to it

4.1.3 Work-related Learning Projects

Van der Krogt and Warmerdam (1993) have proposed learning projects as appropriate instruments to organize employees' work-related learning in groups. Marsick and Watkins (1990) have elaborated on informal and incidental ways of learning and have introduced the concept of action/reflection learning projects as a way to organize experiential learning during work in groups. These authors take into account nonformal learning activities, employee interests and initiatives, and the complex relationships between work and learning. The projects they describe clearly differ from the individual adult learning projects with a more general orientation (e.g., learning how to keep bees as a leisure time activity) described by Tough (1978), Penland (1979), and Sexton (1990).

A learning project consists of a group of employees engaged in learning activities around a work-related learning theme (Poell, 1994; 1995). Besides the employees, their managers and educational professionals can be involved as participants. Learning projects enable groups to optimize work processes and learn from their experiences at the same time. The theme should be relevant to the participants and the problems they experience in their work. The learning activities can range from brainstorming sessions to experiments with new working methods, self-study, asking help from colleagues, inviting outside experts, visiting fellow organizations in the field, and so forth. We will now further explore the concept of learning projects from a network perspective, as an instrument to organize employees' work-related learning in groups.

We regard learning projects as small group learning networks. This enables us to translate the learning-network model at the organizational level to the level of the learning group. The same principles apply there. So, at the learning-project group level, employees and other actors organize learning processes and improve work processes around a core theme or problem. A learning project thus associates work improvement with employee development. Structural learning arrangements with regard to the learning-project's content, organization, and climate result from these processes. Participation in a learning project can modify actors' action theories, resulting in new options for action, which is assumed to reflect learning

4.1.4 Four Theoretical Types of Learning Projects

Four theoretical types of work-related learning projects can be derived from the learning-network theory. These are vertical, horizontal, external, and liberal learning projects. Table 4.1 gives an overview of the four theoretical types. Any empirical learning project can be characterized by elements of one or more theoretical types:

1. In **liberal** learning projects, skilled individuals team up to enrich their own work improvement and learning programs with group reflection on their experiences. Each individual member is responsible for his own work and learning but there is a common theme or problem on the basis of which they undertake joint learning activities. The group shares ideas and experiences but each individual member decides how they are applied in practice.

2. In **vertical** learning projects, the management decides on new work policies, the work preparation staff translates these into work programs, and the education staff designs a learning program in which the learning group takes part. Members of the learning group can also participate in policy making and program development by providing information on their ideas about work, their needs, and their learning styles. Staff members and line managers are dominant actors in vertical learning projects, which are in line with the training-for-impact approach described by Robinson and Robinson (1989).

Table 4.1.

Four Theoretical Types of Learning Projects

	Liberal	Vertical	Horizontal	External
ACTORS (Who Is Dominant?)	individual employees	managers supported by staff	employees as a group	employees inspired by profession
LEARNING PROCESSES (Co-ordination in What Way?)	individual, liberal	top-down, mechanical	integrated, organical	external, collegial
LEARNING STRUCTURES (Content Structure: Learning Situations)	unstructured (sharing ideas and experiences)	structured (training, coaching)	thematical (experiments, group reflection)	methodical (practice on-the-job, intervention)
(Organizational Structure: Nature of Relationships)	loosely coupled (contractual)	centralized (formalized)	decentralized (egalitarian)	focused externally (professional)

3 In **horizontal** learning projects, the learning group attempts to solve complex problems by reflecting on experiences, developing joint action theories, and bringing these into practice in an investigative manner. The development of a learning policy, the development of a learning program, and the qualifying processes are integrated. Relationships between group members are egalitarian, in that each of them contributes equally to the project. This type is similar to the action/reflection learning sets as described by Marsick and Watkins (1990) and to the adhocratic work group as described by Mintzberg (1979).

4 In **external** learning projects, the group is inspired by action theories developed outside the organization (e.g., new work methods developed by professional associations). The members of the learning group adjust their work to the acquired action theories by engaging in the development of learning activities, for example, on-the-job practice and intervention. Members of the learning group can be part of the professional domain in order to participate in the development of new work methods.

Usually, an empirical learning project will turn out to be a hybrid, since theoretical types are unlikely to be found in their pure form in real organizational life.

4.1.5 Research Questions

What empirical evidence can be given to sustain the claim that there are several different ways to organize work-related learning in group projects? The conceptualization of learning projects as small group learning networks enables us to describe different empirical types.

The main research questions are to determine 1) the **characteristics** of each learning project, namely the interactions between the actors, the content of the learning program, and the division of tasks and responsibilities by the actors, and 2) the **effectiveness** of each learning project, namely what the participants have learned during the learning project, that is, how their action repertoire has changed.

4.2 Research Method

4.2.1 Participants

The participants were 15 consultants in four small educational consultancy firms, who were engaged in four learning projects to improve their advisory skills. The learning-project groups consisted of five, five, three, and two participants, respectively. These are referred to as groups A, B, C, and D. Groups A and B included a consultant with management responsibilities in their firm. Nine participants were women. All participants held at least a bachelor's degree, mostly in social sciences, education, or literature. Their experience in educational consultancy ranged from 4 to 21 years, with a mean of 12 years. Most participants had been employed in three to five different jobs during their consultancy career.

4.2.2 Procedure

The study is a descriptive evaluation of four learning projects. Eight categories derived from the learning-network theory were used to describe these learning projects. To assess their effectiveness, another two categories were included: one pertaining to the perceived impact of the learning project and one focusing on the changes in participants' action repertoire. An overview of these categories is presented in Table 4.2.

Table 4.2

Categories Used to Describe the Learning Projects and Assess their Effectiveness

CHARACTERISTICS OF THE LEARNING PROJECT

Actors

- (1) participants' action theory with regard to learning

Learning Processes

- (2) development of a learning policy
- (3) development of a learning program
- (4) qualifying process
- (5) relationship between these processes

Learning Structures

- (6) content structure
- (7) organizational structure
- (8) learning climate

EFFECTIVENESS OF THE LEARNING PROJECT

- (9) changes in participants' action theory regarding work
 - (10) participants' judgment of the impact on their learning and work
-

Data were collected in three ways. First, learning-group documents were analyzed. Second, learning-group meetings were observed. Third, semi-structured group interviews were held with each learning-project group one year after they had started. The participants were asked to provide information retrospectively as well as to describe their current situation.

4.2.3 Analysis

The analysis was conducted by comparing each descriptive category of each learning project with four theoretical types of learning projects derived from the learning-network theory. To assess reliability, the resulting case descriptions were corroborated by one of the process counselors and member-checked by the learning-group participants (Strauss & Corbin, 1990).

4.3 Results

This section starts with a short description of the four learning-project cases. It goes on to describe the learning projects in terms of processes and structural arrangements. Finally, the effectiveness of the learning projects is addressed.

4.3.1 Short Case Descriptions

All participants enrolled in a training course on advisory skills that was designed and delivered by three trainers/counselors. After the first training session, the counselors advised the participants to form small groups. These should meet regularly outside the plenary training sessions in order to prepare, organize, and evaluate their own small group learning-project meetings. The participants organized themselves in four groups, namely one group per consultancy firm. This meant that each group consisted of colleagues with whom participants had a day-to-day working relationship.

From this moment on, the plenary sessions became only one of the learning activities that each group was undertaking within their own learning project. Over the course of ten months, eight plenary sessions were held. During these sessions, the groups informed each other about their activities and, supported by the counselors, reflected on the course of their respective projects. Hereby, the participants learned how the others put the advisory skills gained during the training into practice. The counselors offered the participants new insights and advisory methods. They encouraged them to apply these in their practical work and reflect groupwise on their experience as often and as soon as possible.

Besides these joint learning sessions, each group created their own program of specific activities. **Group A** met regularly outside the plenary sessions to study relevant literature, to evaluate individual experiments with newly acquired advisory methods, and to prepare each plenary session. They discussed extensively about their views on advisory work in relation to the training content. This usually happened during normal work routine, when the participants encountered their day-to-day work problems. **Group B** followed a similar line, but they added some different learning activities. They teamed up with one of the counselors to write a magazine article describing their practical experiences. They also had two of their participants carry out a pilot project with a customer to be able to practice their advisory skills. The other three participants acted as a board of reflection on their experiences. When the eight plenary sessions were over, this group invited one of the counselors to help them guide their continuing learning process for an additional ten months.

Group C operated differently. They saw little opportunity to meet outside the plenary sessions and undertake joint learning activities. All individual participants, however, did prepare for the plenary sessions and try to incorporate the new insights from the training course into their daily work. Some were more successful than others at this, depending on their idea of the feasibility of the new working methods. Each time when they travelled together to and from where the plenary sessions were held, they reflected on the training

course and its impact on their individual daily work. Sometimes they used literature for more structured joint reflection. **Group D** followed a similar line, due to the fact that they were really too busy with daily operations. Their manager would not grant them extra time for systematic reflection and experiments with new working methods. They still thought the plenary sessions were worthwhile, because it provided them with enough new insights to be able to function in their present work. They appreciated hearing about the other groups' experiences, but saw no opportunity to undertake additional joint learning activities.

We will now interpret these learning projects in terms of the learning-network theory. Table 4.2 contains an overview of the categories that were used for this purpose.

4.3.2 Characteristics of the Learning Projects

4.3.2.1 Actors' Action Theories with Regard to Learning The employees conceptualized learning as an individual activity, formalized in training courses off-the-job. The learning-project counselors, however, stressed the importance of informal and work-related learning in groups. The counselors encouraged the participants to create multi-faceted learning programs, consisting of informal as well as formal activities, undertaken groupwise as well as individually, on as well as off the job.

4.3.2.2 Organization of Learning Processes The distinctions between the four projects are mostly due to the individual or group orientation of the participants. Groups C and D were loosely coupled, in that the individual members attended course meetings together, but failed to perform any other joint learning activities. There was little application of learning on the job in the practical part of the course. Learning activities were mostly separated from work and largely externally co-ordinated by the counselors. The development of the learning program can be characterized as collecting innovative learning activities. The qualifying process was mainly self-directed, with little professional counseling. The development of a learning policy was an implicit process, partly inspired by external forces.

Groups A and B, on the other hand, investigated new working methods and created all kinds of learning activities around their experiments. Learning processes were integrated with work by the group and were only partly externally co-ordinated by counselors. The learning program was developed as a process of investigation and reflection on innovative experiences. Decisions on the learning policy were made in the same process. The qualifying process was group based, with only little professional counseling.

To summarize, all groups had partly organized their learning processes externally. Furthermore, groups A and B employed the learning group as an organizing principle, whereas groups C and D had individual members self-direct these processes.

4.3.2.3 Structural Arrangements Similar differences were found in the content, organization, and climate of the projects, although an external-professional component characterized all groups. This component appears in the content of the learning programs: for instance, lectures on educational consultancy and advisory skills were held, academic literature from this domain was studied, and discussions took place with colleagues.

outside the firm. These learning situations occurred at work as well as off-the-job. The external component was also present in the organizational structure: trainers/counselors from the professional field played an important role in all learning projects. The learning climate can be described as inspiring and innovative, in that groups were looking for new ideas to apply in their work.

The content of the learning programs in groups A and B was also problem oriented, in that collective reflection on the current practice of participants, investigation of new approaches, and special assignments were crucial. These learning situations were integrated into daily work routine. Mutual counseling within the group characterized their organizational structure. The learning climate emphasized the integration of group learning and group work.

The content structure in groups C and D can be labeled as unstructured, in that each individual member designed a small work-related learning program around the training course. The organizational structure of the group can be described as contractual, in that the group served as a place where learning experiences were discussed and a counselor was hired to provide new ideas. The learning climate emphasized liberal and individualized learning.

4.3.3 Effectiveness of the Learning Projects

As to the changes in participants' work action repertoire, differences were found between the four groups. Groups A and B experienced changes in their work norms, ideas, rules, and actions. During the learning project, they frequently asked why?-questions to gain a deep understanding of the principles underlying new advisory methods. The changes in groups C and D focused mainly on work rules and actions. During the learning project, they often asked how?-questions to be able to practice new advisory methods straight away.

The participants in groups A and B reported that the project had a strong impact on their learning as well as on their work. Both learning and work were more group oriented and problem driven than before. For these groups the learning project was highly effective. The participants in groups C and D reported that the project had a strong impact on their learning but little impact on their work. They reported to have gained some instrumental knowledge, but due to influences beyond their control they were unable to apply it thoroughly in their daily work. For these groups the learning project was moderately effective.

4.3.4 Summary

The results indicate that groups A and B are very similar in all descriptive categories. The same holds true for groups C and D. As Table 4.3 summarizes, the differences found between groups are between A and B on the one hand and C and D on the other hand. Groups A and B can be characterized as external-horizontal hybrids, groups C and D as liberal-vertical hybrids.

Table 4.3

Comparison between the Learning Projects Undertaken by Groups A/B and C/D.

	Groups A and B	Groups C and D
ACTORS		
Action Theory with Regard to Learning	employees: formally, individually, off-the-job counselors: informally, groupwise, work-related	employees: formally, individually, off-the-job counselors: informally, groupwise, work-related
LEARNING PROCESSES		
Development of Learning Policy	along the way, adaptive	implicit, directed by trainers
Development of Learning Program	investigating and reflecting on new experiences	gathering individual learning activities
Qualifying Process	group based, integrated with daily work	self-directed, separated from daily work
Relationship between Learning Processes	integrated	loosely coupled
LEARNING STRUCTURES		
Content Structure	profession and problem oriented	unstructured, partly profession oriented
Organizational Structure	mutual counseling	contractual
Learning Climate	innovative, integrated	innovative, liberal
EFFECTIVENESS		
Changes in Action Repertoire	changes in norms, ideas, rules, and actions (why?-questions)	changes in rules and actions (how?-questions)
Self-perceived Impact	high impact on learning and work	high impact on learning, low impact on work
TYPE OF LEARNING PROJECT	external-horizontal	liberal-vertical

4.4 Discussion

4.4.1 Practical and Theoretical Relevance

The results of this study suggest that work-related learning can be organized in different types of (group) learning projects. Coherent programs of work-related learning activities can be developed and co-ordinated in different ways by different actors. The learning projects in this study were found to vary with respect to action theories, learning processes, and structural arrangements. Two types of learning projects appeared: a liberal-vertical type (groups C and D) and an external-horizontal one (groups A and B). In this study, the latter was deemed more effective than the former. The learning projects

had a differential impact on actors' work action repertoire. The external-horizontal type resulted in a range of alternative options for work action, while the practical impact of the liberal-vertical type was more modest.

The learning-network theory allowed us to adopt a concept of work-related learning projects that systematizes various informal learning activities around a core theme, without necessarily formalizing them. It emphasizes the crucial role that employees, besides managers and trainers, play in the organization of work-based learning. The concept can be used by these actors to develop coherent learning programs containing various kinds of work-related learning activities. It allows them to choose from a variety of action strategies, processes, and structural arrangements. The concept can also be regarded as a framework for interaction between the actors and their different action theories with regard to learning. The cases made clear that the counselors, the participants, and their managers held different views on the way the learning projects should proceed. In some cases, these views were reconciled throughout the learning project. In other cases they were not, thereby reducing the effectiveness of the participants' learning efforts.

It should be noted that the ideas underlying our concept of learning projects are partly inspired by notions on action/reflection learning sets (Marsick & Watkins, 1990). These sets also emphasize informal learning linked to work improvement and the importance of group reflection on the learning process itself. On the other hand, learning sets are often associated with management development (Watkins & Brooks, 1994), whereas our concept of learning projects is primarily concerned with the problems and the learning of shop floor employees (Inglis, 1994). Another difference is that action/reflection learning sets seem to be primarily associated with the horizontal type in their focus on group reflection and the development of shared ideas. Although this is deemed important in our concept of learning projects, we think there are more dimensions worth considering in the organization of work-related learning. There should also be external inspiration, a certain amount of top-down co-ordination, and ample opportunity for individual choice. Thinking in terms of all of these dimensions can open up more alternative options for action than focusing on group reflection and shared norms.

Some limitations of this study should be mentioned. The analysis was conducted on a sample of only four learning-project groups involving 15 consultants. The results cannot be generalized beyond these four cases. Also, interviewing participants may not be the best way to gain information on their action theories. Respondents will present their espoused theories rather than their theories-in-use (Argyris & Schon, 1978). This problem of mapping the theories-in-use of respondents was partially controlled by corroborating the interview data with observations and document analysis.

4.4.2 Implications for Further Research

Future research should involve a larger number of projects, to further map the variation in empirical learning projects. The learning-network theory predicts more types of learning projects than the two hybrids that were found in this study. The development of a more standardized questionnaire to characterize learning projects will undoubtedly be helpful

For this purpose, the categories from the learning-network theory should be further operationalized.

One may ask what causes learning projects to differ from one another. This study suggests that the differences are related to the action theories of dominant actors with regard to learning. This seems to be a crucial category to include in further research. We found some evidence of conflicting action theories between the learning group and the counselors. In one case, the dominance of their managers' action theories kept the learning group from being effective. Future research should address the possibilities for different actors to negotiate learning programs according to their action theories, strategies, and interests.

Second, the differences between learning projects can also be connected to the existing learning network in the organization. The learning-network theory expects organizations to differ with regard to their learning networks. For instance, organizations characterized by a strong vertical learning network (hierarchical, linear planning, formalized training arrangements) may be prone to vertical learning projects, whereas horizontal learning projects are to be found mainly in organizations with a clear horizontal learning network (egalitarian, incremental planning, informal learning). This relationship can be caused by the fact that learning projects use already existing learning situations (besides adding some new arrangements to the learning network). Another cause can be that the same actors who shape the existing learning network also create learning projects. They may not be inclined to invent new arrangements.

A third possibility is that the course of a learning project is influenced by the way work is organized. For instance, work with only a low degree of autonomy could be more likely to evoke vertical learning projects than horizontal, external, or liberal ones. Similarly, highly autonomous work may call for learning projects with a high degree of learner autonomy, which is not found in vertical ones. This relationship can be caused by the fact that work differs with regard to the amount of learning potential it offers to employees. Another cause can be that the same actors who organize work also shape the learning projects. They may try to bring the course of the learning projects in line with their ideas about the organization of work.

Although these contextual factors were not represented in this study, our data provide some evidence for their significance. They can also be related to the effectiveness of a certain type of learning project. These questions can be explored in further research.

Chapter 5. Developing a Typology of Work-related Learning Projects⁶

This study describes the iterative process by which an empirically validated typology of work-related learning projects was developed. Theoretical models were elaborated and practical experiments conducted in seven stages. A shift occurred during the research process regarding the practical goal, the underlying theoretical propositions, and the methodological instruments used. This shift is the focus of the present study, demonstrating the benefits of a non-linear research design in yielding both practically and theoretically relevant notions. It is concluded that an iterative method of constant comparison in practice based on theoretical categories, which alternates inductive and deductive procedures, is useful for developing an empirically validated typology.

5.1 Introduction: Research-methodological Issues

The concept of the learning project can be used to study processes of work improvement and learning in organizations. A learning project is regarded as an instrument aimed at the systematization of learning activities around a central work-related theme or problem. A learning project enables its participants to acquire new competencies by solving problems or studying themes that are relevant for every-day work (Poell & Van der Krogt, 1997).

This study deals with the methodological issue of how to organize research into work-related learning projects. It reflects upon a research project aimed at the development of an empirically validated learning-project typology. In order to distinguish several types of learning projects the concept, which was very much theoretical by nature at the start, had to be operationalized, made visible and measurable in practice. The study evaluates the shift that occurred during this process with respect to the practical goal of the research project, the underlying theoretical propositions, and the research methods. It focuses on the methodological approach that was used rather than on the resulting typology (the latter is described in Chapter 6).

Research efforts in the social sciences are often confronted with reframing processes, interfering with the idea that research should be designed as a strictly linear process. But the impact of a reframing process on the research methodology is not necessarily detrimental. Instead, it provides an opportunity to learn to attune one's research efforts to changing perspectives. It is more important to find valid ways to deal with changes during the course of a research project than it is to avoid such shifts at all cost. The latter can undermine the practical and theoretical relevance of the research. One needs to be aware, however, of the impact of the changes in the design that occur along the way.

⁶ This chapter is currently under review as Poell, R. F., Van der Krogt, F. J., & Wildemeersch, D. A. (1997). Developing a Typology of Work-related Learning Projects. An Analysis of the Methodological Process.

Therefore, this study describes our research efforts into work-related learning projects on the basis of the following questions:

1. For whom is the concept of learning projects **practically relevant**?
2. Which concept of organizing is **theoretically relevant** for learning projects?
3. Which **research strategy** is useful in this respect?

The answers to these questions will enable us to determine the usefulness of our iterative research design, which is illustrated in some detail below

5.2 The Research Project: Developing a Typology

The research project originally started as an attempt to design a practical organization development instrument. It was believed that human resource developers and consultants would consider the concept of a learning project useful in this respect. Consultants would benefit from knowledge about different kinds of learning projects that could help them change the work and the people in an organization. A core idea of Mintzberg (1979) was adopted, demonstrating that organizations can be structured in different ways. This idea was applied to the field of human resource development, implying that the organization of learning projects could be structured in various ways. The development of an empirically validated typology of learning projects that was based on this idea is described below as a seven stage iterative process. The process is summarized in Table 5 1.

5.2.1 Stage 1: Orientation

The first stage consisted mainly of a literature study on the topic of learning projects (represented in Chapter 2), aimed at specifying its dimensions. It turned out that the concept was not regarded as an organization development instrument, but rather as a principle structuring individual learning efforts (Tough, 1978) or organizational inquiry (Argyris & Schön, 1978). To view a learning project as a group of employees engaging in problem-based learning activities did not turn out to be a very common approach. Additional inspiration was then sought in the literature on organization development, project education, and informal learning in organizations.

The latter provided an insight into the importance of learning activities that are not part of a formalized training program (Marsick & Watkins, 1990). So, a first dimension to distinguish learning-project types was related to the formal-informal continuum. A similar distinction concerned the place where the learning occurs, either on or off the job. It became clear that although employees can learn many things in a training room, other things are best learnt at work. A second relevant dimension encountered was whether the learning activities were directed by employees themselves or by others, for instance, trainers or managers (Candy, 1991). Although learning activities are very often related to the trainer's perspective, we emphasized that employees can organize a range of possible learning activities themselves. A third relevant dimension pointed to the degree of pre-arrangement in the learning program (Morgan, 1987). Although learning programs are often

Table 5 1

Overview of the Research Process

Stage	Activities	Result
1 Orientation (Figure 5 1)	study literature on organization development, project education, informal learning in organizations, secondary analysis of four learning-project cases	relevant dimensions to describe different learning projects in terms of structures
2 Open Description	analysis of eight cases using an inductive grounded theory approach	some categories to describe structures
3 Practical Development	develop learning projects in four organizations, analyze them using the learning-network theory (deductive approach)	theoretical categories to describe action theories, actor strategies, and structures
4 Modeling (Table 5 2)	focus on actor strategies to combine work performance with employee development, derive four theoretical models from the learning-network theory	four theoretical models to describe actor strategies (policies, programs, practices of employees, managers, consultants)
5 Iterative Testing - Part I	analyze four cases by comparing actor strategies with theoretical models, conduct reliability analysis, feed back strategy data into theoretical models in order to operationalize them	four operationalized models to describe actor strategies (policies, programs, practices of employees, managers, consultants)
6 Iterative Testing - Part II	re-analyze eight cases from stage 2 by comparing actor strategies with operationalized models, feed back data into models	four operationalized models to describe actor strategies
7 Iterative Testing - Part III	analyze four cases by comparing actor strategies with operationalized models, feed back data into models	four operationalized models to describe actor strategies (Table 5 3)

designed in a linear way before they are actually executed, sometimes they are developed more organically as a learning process in itself. All three dimensions refer to the way in which a learning project is structured.

As an empirical component at this first stage, a secondary analysis was conducted using existing material from four learning-project cases in probation institutions (Poell, 1995). Two main learning-project types were found on the basis of the three dimensions:

- 1 the 'traditional training project', organized by trainers and managers, in a formal way and off the job, entirely planned before its execution,
- 2 and the 'integrated learning project', organized by employees, in an informal way and on the job, developed organically during its execution.

It was concluded that the three dimensions in learning-project structures were probably referring to one underlying continuum. The dimensions, which resulted from our conceptual and empirical analyses, are summarized in Figure 5 1.

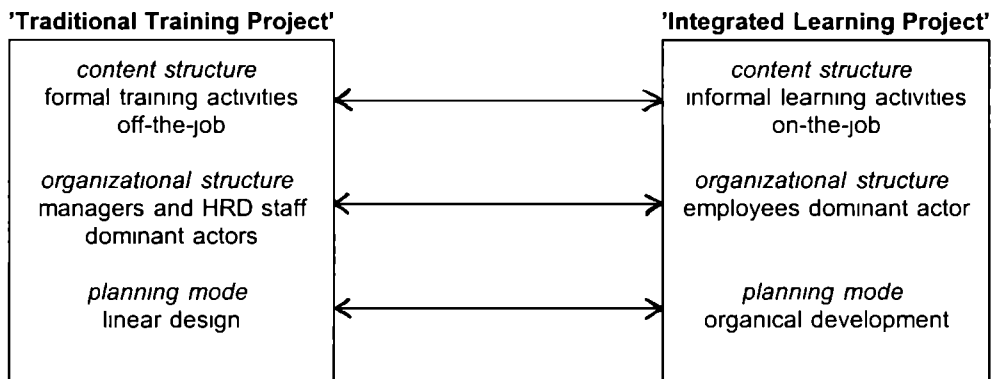


Figure 5.1 Three Dimensions that Distinguish Two Learning-project Types

5.2.2 Stage 2: Open Description

The second stage consisted of an elaboration of the three structural dimensions using newly collected material from eight learning-project cases in hospitals. Learning projects were initially selected as a case if there was an identifiable group of employees, managers, and trainers/consultants who had conducted a set of learning activities around a certain theme or problem. An inductive grounded theory approach was used to structure interview data (Strauss & Corbin, 1990). Interview scenes were labeled and constantly compared in order to produce descriptive categories of learning projects. Although this method yielded fairly rich pictures of the way each learning project went about, there emerged no useful categories other than more detailed elaborations of the ones already found at the first stage. It was concluded that an inductive approach was a good way to provide an in-depth view of a learning project, but not necessarily to produce a typology. Using a grounded theory approach would be too time-consuming and uncertain for our purpose.

5.2.3 Stage 3: Practical Development

In the third stage the researchers acted not only as distant analyzers, but also as prominent actors within four learning projects. The researchers counseled fifteen educational consultants who wished to improve their advisory skills. The first part of the learning program was course based and encompassed the transfer of theory, the practising of skills, and the sharing of prior experiences. The second and main part of the learning program was project based, shifting attention towards the participants' own responsibility to organize learning activities at work. Four learning groups emerged, which received guidance by the counselors/researchers.

In the analysis of the learning-project cases, the inductive approach was abandoned in favor of a deductive method, using the newly developed framework of the learning-network theory (Van der Krogt, 1995, Van der Krogt & Warmerdam, 1997, Poell & Van der

Krogt, 1997). Learning projects were regarded from a network perspective on the organization of learning. As Figure 5.2 describes, each learning network has three main components, namely actors, processes, and structures. Actors (or stakeholders), such as employees, managers, and consultants, are at the core of the model. All of them are presumed to have their own theories and interests, which they act upon strategically. In the interaction between the actors, they create processes concerning policy development, program development, and program execution (qualifying and learning). Although these processes are referred to as learning processes, this term should not be understood in a psychological sense, but rather with reference to an organizational context. The processes consist of social rather than mental learning activities. When processes start occurring along more permanent lines, certain structures emerge. Each learning network is characterized by a certain profile in the learning activities (content structure), a certain division of tasks among the participants (organizational structure), and an incorporation of certain norms and values with regard to learning (climate). These structural arrangements in turn influence the action possibilities and strategies of the actors.

The descriptive categories of the learning-network theory were used to analyze the four learning-project cases (Poell & Van der Krogt, 1997). Learning projects were described in terms of the theories used by the actors, the processes they created in interaction, and the structures that resulted. Two types of learning projects emerged on the basis of their different structures, namely 'highly pre-structured' learning projects on the one hand, and 'open process' learning projects on the other hand. These are comparable to the 'traditional training projects' and 'integrated learning projects' mentioned earlier.

This stage yielded useful and consistent theoretical categories to describe learning projects in terms of actors, processes, and structures. The resulting typology, however, was still limited to the structural arrangements in learning projects.

LEARNING PROCESSES

- * Development of a Learning Policy
- * Development of a Learning Program
- * Execution of a Learning Program

LEARNING STRUCTURES

- * Content Structure
- * Organizational Structure
- * Learning Climate

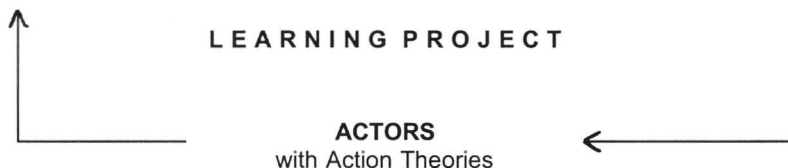


Figure 5.2. Organizing a Learning Project Viewed from a Network Perspective.

5.2.4 Stage 4: Modeling

The fourth stage was mainly theoretical by nature. The network perspective on organization enabled us to better understand the dynamics in learning projects, to see the importance of actor strategies in the creation of structures. Not only the strategies of consultants came to the fore, but also those of the managers and the employees in the organization of learning projects. Focusing on the strategies in learning projects appeared to offer the actors more practical possibilities for action and reflection than sticking to the structures. Considering the question of what the actor strategies were actually referring to, learning projects were found to offer the participants several ways to deal with the ever-present tension between work performance and employee development. Learning in organizations is always a delicate combination of personal/professional growth and organizational improvement. Learning projects came to be seen as a prime 'arena' for actors to reduce the constant tension between both important goals.

Four theoretical models of actor strategies were derived from the learning-network theory. Each model encompassed certain action patterns of employees, managers, and consultants within the three learning-project processes of policy development, program development, and program execution. The four models, which are summarized in Table 5.2, were strictly theoretical by nature at this stage. They referred to ideal types not encountered as such in reality. The next three stages were aimed at operationalizing the models by a process of empirical validation (Miles & Huberman, 1994).

5.2.5 Stage 5: Iterative Testing - Part I

The fifth stage was a first attempt to operationalize the four theoretical models of actor strategies. Four new learning projects in a hospital and a night school were analyzed. All available documents of each learning-project case were studied, for example minutes of learning group meetings, proposals for learning programs, and evaluation sheets. Participants were selected for interviews on the basis of these documents and initial talks with key persons. Twenty-two employees, managers, and consultants were interviewed about the learning project using a semi-standardized topic list aimed at identifying their strategies. Two to three page summaries were made by the interviewer and offered to participants for correction and legitimization. The participants were asked to return the corrected summaries to the researcher. A computer program for qualitative data analysis, called Kwalitan (Peters & Wester, 1990), was used to score the corrected interview scenes. This was done by comparing the actions of the participants with the actor strategies specified in the theoretical models and labeling them accordingly. This procedure yielded an image of the strategy of each actor, as well as a view of the strategy configuration that resulted from the interactions between the actors.

To test the inter-rater reliability of the interview scores and improve the quality of the analysis, the actor strategies in these cases were scored independently by a second assessor. The number of scores on which both assessors agreed equaled 62 per cent, initially, and eventually went up to 94 per cent. The changes in scores, which were made in order to solve the disagreements, had no fundamental impact on the image of the actor

Table 5 2

Four Theoretical Models of Actor Strategies.

Actor	Process	Representative Consultation	Continuous Mutual Adaptation
Employees	Policy Development	provide the manager and consultants with relevant information, suggest learning activities	become aware of the learning policy developed gradually on the way, adjust it to current requirements if necessary
	Program Development	have representatives design a learning program tailored to employees' tasks and needs	develop new learning-program activities by reflecting upon prior experiences / activities
	Program Execution	participate in formal learning activities, apply new knowledge on the job, have the manager coach them	discuss and reinterpret work problems, conduct and reflect upon practical experiments, create a shared understanding
Managers	Policy Development	formulate work goals with employees representatives and translate them into a learning policy with consultants	monitor conditions, make sure the employees produce certain results
	Program Development	urge employees to participate in learning activities designed by consultants	consider possible new learning activities with employees
	Program Execution	coach the employees throughout the execution of the learning program	consider work problems with employees and create a shared understanding of them
Consultants	Policy Development	consult with managers and employees representatives about the design of the learning program	help employees clarify the learning policy they have developed on the way
	Program Development	design a learning program for employees	advise employees about possible learning activities to come next
	Program Execution	co-ordinate the execution of the learning program, deliver training	help employees reflect upon learning experiences, guide the learning process

Table 5 2 (continued)

Four Theoretical Models of Actor Strategies

Actor	Process	Participation in Professional Innovation	Individual Arrangements
Employees	Policy Development	translate a new methodology developed by professional associations to work	arrange with the manager to create a learning program that meets personal needs and fits the work situation
	Program Development	develop learning-program activities inspired by an externally acquired methodology	create an individual learning program on the basis of information from consultants
	Program Execution	combine external learning activities with self-study, adjust work to the newly acquired methodology in an investigative manner	use other employees, the manager, and consultants to reflect upon learning activities and apply new insights on the job
Managers	Policy Development	provide facilities for innovation by employees (time, money, resources, internal legitimization)	help employees arrange a learning program that meets personal goals and fits individual work problems
	Program Development	provide facilities for program development by employees	help employees create arrangements for an individual learning program
	Program Execution	provide facilities for employees to adapt work to the new externally acquired methodology	help employees engage in learning activities and apply new insights on the job
Consultants	Policy Development	assist employees in the development of a learning policy	help employees elaborate learning themes that meet personal goals
	Program Development	assist employees in the development of an external learning program	inform employees about possible learning activities for an individual program
	Program Execution	assist employees in the execution of the external learning program	help employees choose the proper learning activities for their needs

strategies created by the first assessor. To check the accuracy of the analysis, case descriptions of two learning projects were discussed with the learning groups concerned. In general, the participants recognized the images of their strategy and of the learning project as a whole.

After the analysis of the four cases had been completed, the interview data on actor strategies were fed back into the theoretical models in order to operationalize them. The theoretical descriptions of the action patterns of the three actors in the three processes were replaced with more practical descriptions. The difficulty in this exercise was to formulate the actions at the right level of context-independency. If the models were to be useful for analyzing new cases, the actions could not be specified in too much detail or example, nor should they be as theoretical and context-free as they were originally. Not all cells of the matrix were operationalized at this stage. For instance, the four cases did not see any consultants using the 'individual arrangements' model. In these cells, the original theoretical descriptions were maintained for the time being.

5.2.6 Stage 6: Iterative Testing - Part II

The sixth stage was an attempt to further operationalize the four models of actor strategies that had now been confronted with reality once. To this end, the eight learning projects from stage 2 were re-analyzed using the new framework to score summaries of fifty-five interviews with employees, managers, and consultants. The same procedure used in stage 5 was employed to describe the strategies of each actor and the resulting strategy configuration by comparing them to the four models.

After this analysis, the interview data on actor strategies were fed back into the four models. The descriptions were supplemented and further operationalized. Still, not each cell of the matrix was covered. For these particular cells, an attempt was made to reformulate the original theoretical descriptions at the same level of abstraction as the operationalized ones. It was decided that new learning-project cases should be selected on the basis of their expected contribution to completing the matrix.

5.2.7 Stage 7: Iterative Testing - Part III

The seventh stage very much repeated the procedure used at the fifth stage. Four new learning-project cases in an electronics firm and an organizational consultancy firm were analyzed on the basis of interviews with nineteen participants, through a comparison of their strategies with the models operationalized earlier. The analysis was based on interview summaries corrected by the participants. The interview data were fed back into the models, and this time the whole matrix was completed. The result, which is summarized in Table 5.3, consisted of four operationalized models that describe the strategies of employees, managers, and consultants within the three learning-project processes of policy development, program development, and program execution. The models have been (re-)labeled as 'Direct Representation', 'Continuous Adaptation', 'Professional Innovation', and 'Individual Negotiation', in order to reflect the new focus on strategies instead of structures.

'Direct Representation' is a model that allows employees to contribute to the development of the learning policy by the consultants and the management before the learning program is actually executed. 'Continuous Adaptation' sees all parties concerned in a joint iterative process of action and reflection. 'Professional Innovation' is a model that emphasizes the external inspiration sought by the employees within their professional field, as they create learning arrangements to introduce work innovations. The model of 'Individual Negotiation' is characterized by the empowerment of employees to negotiate specific learning programs with the management and the consultants, on an individual basis. The actual strategies of the actors within the four models appear in Table 5.3.

This concludes, for now, the development of an empirically validated typology of learning projects. The four models can be used to identify and describe learning projects in terms of actor strategies. Actors can relate to the different models in order to choose from a range of possible strategies to use. Actors now also have a framework to 'predict' the strategies of other actors in certain configurations. Of course, although the four models have been operationalized and empirically validated, they remain ideal types to a certain extent. An analysis of the sixteen learning-project cases from stages 5 through 7, aimed at identifying actual learning-project types, revealed that most of them turn out to be hybrids (cf. Chapter 6; Poell, 1997).

5.3 Conclusions

This study describes a seven stage process in which an abstract-theoretical concept referred to as a learning project was made more concrete, visible, and measurable in actual practice. When we look back to this process, obviously a shift has occurred with respect to the practical goal of the research project, the underlying theoretical propositions, and the research methods that were used. These changes are elaborated below in order to answer our research questions.

5.3.1 Practical Relevance

We started out creating a practical tool for consultants aimed at the design of organization development programs. Gradually, however, a learning project came to be regarded as a framework offering consultants, managers, and not in the last place, employees strategies for developing coherent sets of learning activities. It was recognized that all these actors in a learning project have their own relevant theories and interests upon which they base their strategies. The concept should provide them with a framework to understand the different ways in which learning activities are and can be organized. Instead of thinking about one best way for consultants to design a learning project, we focused on enabling all actors to bring about various kinds of learning projects.

Table 5 3
Four Operationalized Models of Actor Strategies.

Actor	Process	Direct Representation	Continuous Adaptation
Employees	Policy Development	(have representatives) raise ideas for work improvement and learning-group activities; (dis)approve of what is planned	consider the why and how of the learning group together from the very beginning, look for common meaning in learning experiences
	Program Development	provide the manager with information about personal goals and learning style, give feedback on learning-program proposals, plan activities by a fixed method	hold group brainstorm sessions about the learning theme, invent new activities on the way
	Program Execution	enrol in the learning program, indicate whether it works; carry out practical assignments and evaluate them together, ask the manager to help	discuss and reinterpret work problems, challenge assumptions; share ideas with the learning group, conduct and reflect upon practical work improvement experiments
Managers	Policy Development	formulate and monitor project goals and method after consultation with employees representatives; offer them alternatives	engage in brainstorm sessions about the learning theme with employees; reflect with them upon the course of the project continuously
	Program Development	translate new insights into work procedures; create a learning plan for employees with consultants, prepare learning-group meetings	conduct a range of small-scale work improvement activities with employees, prepare learning-group meetings; keep looking for the best project approach
	Program Execution	inform employees about work changes; answer questions about the project approach, act as a model figure	support the practical experiments and learning process of employees, discuss and reflect upon differences of opinion
Consultants	Policy Development	advise the manager about the project approach; transfer the manager's vision to the employees; monitor the design during the course of the project	consider with the learning group the course of the project, challenge their assumptions about it, make sure that everyone can participate
	Program Development	specify learning objectives; design learning activities for employees by order of the manager, prepare learning-group meetings; answer questions about the project approach	give feedback to the learning group about their progress; offer alternative suggestions for learning activities; build their ideas into the learning program
	Program Execution	deliver training sessions, transfer theory; explain and monitor the learning method; give practical assignments to employees, provide practical support	help the learning group reflect upon work problems, let them exchange experiences; guide them through the collective learning process

Table 5 3 (continued)

Four Operationalized Models of Actor Strategies

Actor	Process	Professional Innovation	Individual Negotiation
Employees	Policy Development	be inspired by a methodology developed externally, look for adjustments with fellow practitioners by publications and conferences	monitor the coherence in the individual activities, focus on their own learning needs, balance investment costs and learning gain
	Program Development	use external knowledge and expertise to create a specific approach to adapting work	look for solutions to work problems within the boundaries set by the manager, arrange for an individual learning program with the manager
	Program Execution	investigate a new working method, reflect upon these experiences with colleagues, visit fellow organizations	improve work individually and discuss learning progress with the manager, address other individuals to talk or read about mutual problems and possible solutions
Managers	Policy Development	follow the learning group from a distance, stress its importance to the organization, provide co-ordination and favorable conditions	set boundaries for individual employees to solve work problems, stress the importance and encourage participation
	Program Development	encourage professional consultation sessions and evaluation of practical cases	monitor individual employees' planning of work improvement activities, resolve conflicts between individual learners
	Program Execution	encourage employees to develop themselves professionally and provide facilities for this	assist individual employees to practise new ways of working and to see the bigger picture of their learning progress
Consultants	Policy Development	suggest thematic approaches to extending professional expertise, help employees translate external insights to a specific approach	offer employees a framework to conduct individual learning activities, help them monitor the course and coherence
	Program Development	assist employees in adapting their work to the newly acquired methodology, suggest possible activities to accomplish this	enable individual employees to elaborate a learning theme, advise employees and the manager about the individual learning plan and mediate between them
	Program Execution	assist employees in systematically comparing their experiences to an external model	direct employees to knowledge carriers, guide their self-study and other activities, advise them about building in learning activities into daily work

5.3.2 Theoretical Relevance

The shift regarding the practical goal of the research project resulted from the adoption of a different concept of the organization of learning. At first, notions from the contingency theory were used to relate learning-project structures to their context. The learning-network theory made us aware that structures are only one aspect of the organization of learning, and probably not the one most suited to yield practical action possibilities for actors. That is why actor strategies became the central element in learning projects, viewed from a network perspective. Learning projects were no longer regarded as a tool of management (or consultants), implying that what is good for 'the organization' is good for the employees, but rather as an 'arena' for all actors to deal with the constant tension between employee development and work performance (cf Morgan, 1986).

5.3.3 Research Strategy

The adoption of a different theoretical perspective was reflected in a different methodological approach. The first two stages have been characterized as broad orientation and open description, trying to grasp the concept of learning projects. The inductive grounded theory approach that was employed at the start, was later replaced by a deductive logic using the categories of the learning-network theory. Instead of bringing order into chaos by creating categories from the empirical data, theoretical categories were used to look for a limited number of relevant aspects. The theoretical categories were then operationalized in three consecutive rounds of collecting learning-project data, analyzing them, categorizing them, and feeding the relevant data back into the models. This entire process of operationalization was characterized by an alternation of inductive and deductive methodical procedures. The continuous iteration between theoretical models in progress and practical experiments has been a crucial element in our approach through all seven stages.

5.3.4 A Double-loop Learning Process

Although we have described the changes in practical concern, theoretical basis, and research strategy separately, it is obvious that they can only be understood in interaction with each other. The three elements affect each other constantly, and changes in one lead to changes in the others. An analysis such as the one presented above provides a clear view of the shifts that (can) occur in a research project. The analysis points to many characteristics of a double-loop learning process (Argyris & Schön, 1978), in that both the practical goal, the theoretical assumptions, and the research methods were deemed inadequate and replaced by different conceptions in the course of the research project. In order for this to happen, we had to consciously reflect upon our theories, to confront them with practice, to broaden and refocus them if necessary, and do so in every stage of the process. If this research project were to be analyzed as a learning project, which it is in many ways, our strategies would probably be labeled as a hybrid of Professional Innovation and Continuous Adaptation (cf. Table 5.3).

5.4 Implications for Research Methodology

In this study, a typology of learning projects was elaborated that is theoretically based, empirically validated, and of practical use to actors. The typology offers a choice of alternative ways to organize learning activities. It provides an instrument to frame the strategies of employees, consultants, and managers. The combination of practically and theoretically relevant notions was brought about by the iterative research process that we have described above. One thing the typology is not, is a standardized questionnaire to measure different types of work-related learning projects. It is doubtful whether it is at all relevant to design such a tool, in view of the kind of research strategy we have gradually adopted. Our research approach can be regarded as moving away from the empirical cycle and towards the regulative cycle described by Van Strien (1986).

In the empirical cycle, theory is used to derive hypotheses, which are tested using empirical data. This is the approach that inspired us in the beginning. We set out to test our assumption from the contingency theory that certain types of learning-project structures are better suited for certain contexts. But in order to put more emphasis on the practical relevance of the concept, we gradually started to focus on the various action strategies that actors (can and do) employ in learning projects. One step further would be to fully adopt Van Strien's regulative cycle (1986), which is often associated with action research. In that case, the actors and the researchers could use notions from the learning-network theory to act in, and reflect on, the learning projects they are developing together. This would result in more problem-based and practical theories than would be the case when using the empirical cycle. The benefit of our research efforts is that they bring us closer to the regulative cycle, enabling us to develop theoretical notions and practically relevant actor strategies at the same time.

We have demonstrated that a reframing process in the course of a research project, far from being detrimental, can yield worthwhile results. Documenting the changes that occur is necessary, however, in order to be aware of the impact caused by employing a non-linear research design. Our iterative research design turned out to be more attuned to our progressive insights than a linear research design could have been. We conclude that an iterative method of constant comparison in practice based on theoretical categories is a useful instrument for the purpose of developing an empirically validated typology.

This study demonstrates that work-related learning projects differ with regard to the strategies used by employees, managers, and HRD staff. These differences are related to the type of work in which the learning project is conducted. A learning project is regarded as an instrument to systematically organize learning activities conducted by a group of employees around a central work-related problem. It enables employees to combine work performance with professional development. The study employs a network perspective on the organization of learning activities. Sixteen learning-project cases were studied by interviewing ninety-six participants and analyzing documents. A combination of qualitative and quantitative analyses showed the work type to influence the learning-project strategies being employed. Employees, managers, and HRD staff were found to use different strategies, on the whole. The dominant strategy in the learning project was related to the work relations between the actors. It is concluded that the network perspective on learning projects is a useful theoretical tool to describe and explain important elements of HRD practice.

6.1 Introduction

Human resource development is a highly political field of practice. It has to serve two masters, one of which is work performance (Swanson & Arnold, 1996) and the other employee development (Bierema, 1996). The inherent tension, caused by the need to meet both demands at the same time, is increased by the fact that those involved in HRD practices express different interests. HRD professionals, line managers, and employees use the organization of HRD arrangements to suit their own purposes.

Let us suppose, for instance, the management in organization X is convinced that shop floor teams should learn to work more autonomously. They are likely to find that the employees are not very enthusiastic about these ideas and, moreover, that the current work climate prohibits any organizational change in the short run. The employees express different learning needs, which are more related to their own professional development. The HRD staff are willing to help the management acquire its goals, but only in compliance with the prevailing standards in HRD regarding the involvement of employees in organizational change processes. In short, although both demands are deemed important by all of them, the managers are letting work performance prevail over employee development, the employees are pursuing their professional development rather than putting work performance first, and the HRD staff are taking action on the basis of their own professional norms. The point is that they all have their specific ideas about the

⁷ This chapter is currently under review as Poell, R. F., Van der Krogt, F. J., & Wildemeersch, D. A. (1997). Strategies in Organizing Work-related Learning Projects.

contribution of HRD to the accomplishment of important goals. Needless to say, they also have a common interest in elaborating HRD arrangements suiting everyone involved, which calls for interaction and negotiation.

In elaborating practical HRD arrangements, the relations between managers, employees, and HRD staff, will heavily influence the learning programs being created (Cervero & Wilson, 1996; 1997). The distribution of power regarding the organization of learning is likely to differ from the control over the organization of work (Van der Krogt, 1995). Managers are usually quite influential in the organization of work. HRD staff have more impact when it comes to organizing formal training arrangements off and on the job (Jacobs, 1994). Employees are more powerful in the organization of informal learning processes (Marsick & Watkins, 1990; Lave & Wenger, 1991). Combining various kinds of learning situations may offer the best opportunities to solve organizational problems (Senge, 1990; Dixon, 1994; West, 1996; Poell, Tijmenssen, & Van der Krogt, 1997), but the diffuse relations between the actors make it difficult to get a clear picture of the organization of these learning programs. HRD staff, employees, and managers would benefit from knowledge about how and why people organize work-related learning the way they do.

Theory in HRD that enables us to clearly describe the organization of learning and explain its features is scarce. Using the concept of work-related learning projects from a network perspective can contribute to the development of such theoretical knowledge. We explore this theoretical concept below.

6.2 Theory

Poell, Van der Krogt, & Wildemeersch (1997) regard a learning project as an instrument for employees, managers, and HRD staff to systematically organize learning activities around a central work-related theme or problem. By solving work-related problems in a learning project, employees develop their competencies and simultaneously improve their work. A learning project is viewed as a small network of actors who organize learning activities and improve their work (Van der Krogt, 1995, Van der Krogt & Warmerdam, 1997). Employing the network perspective has two implications.

First, it implies a view of employees, managers, and HRD staff as the relevant actors who organize learning activities in interaction with each other. In these processes, all actors employ specific strategies on the basis of their own views and interests. Thus they create learning programs, policies, and practices. It depends on the relations between the actors which strategy turns out to be dominant. The interactions between the actors and their strategies will result in certain structural arrangements regarding the content and organization of the learning project. These learning structures in turn have an impact on the views, interests, and strategies of the actors. The way learning projects operate viewed from a network perspective is described in Figure 6.1.

LEARNING PROCESSES

- * Development of a Learning Policy
- * Development of a Learning Program
- * Execution of a Learning Program

LEARNING STRUCTURES

- * Content Structure
- * Organizational Structure
- * Learning Climate

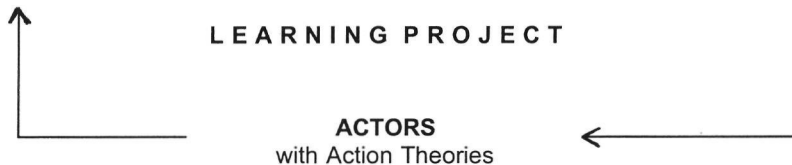


Figure 6.1. Conceptual Model of a Learning Project Viewed as a Network.

Second, using the network perspective implies that the organization of learning projects can be related to the organization of work. Since work can be organized in different ways (Mintzberg, 1979) and learning projects are organized to some extent by the same actors organizing work, learning projects are expected to differ as well. On this basis, Poell & Van der Krogt (1997) expect the following types of learning projects to emerge in four types of work, as shown in Table 6.1.

6.2.1 Liberal Learning Projects

Individual employees team up to enrich their own work improvement and isolated learning programs with group reflection on their experiences. All group members thus create an individual learning project. The programs are loosely organized and their content unstructured. This type of learning project is expected in entrepreneurial work (for example, of insurance salespeople), where individual entrepreneurs are highly self-responsible to organize their work.

6.2.2 Vertical Learning Projects

The management decides on new work policies, the work-preparation staff translates these into work programs, and the education staff designs a learning program in which the learning group takes part. Learning processes are thus linearly planned, resulting in task-specific learning programs that are centrally organized. This learning-project type is expected in machine-bureaucratic work (for example, of bank employees), which is dominated by the management and the work-preparation staff.

Table 6.1.

Four Theoretical Types of Learning Projects and the Corresponding Work Types

	Liberal	Vertical	Horizontal	External
Dominant Actor	individual learners	managers and HRD staff	learners as a group	professional associations outside
Organization of Learning Activities	isolated activities	linear planning	organical	externally co-ordinated
Resulting Content Structure (Profile)	unstructured	task or function oriented	problem or organization oriented	profession oriented
Resulting Organizational Structure	loosely coupled	centralized	egalitarian	externally inspired
Corresponding Type of Work	entrepreneurial work	machine-bureaucratic work	adhocratic group work	professional work

6.2.3 Horizontal Learning Projects

The learning group attempts to solve complex problems by reflecting on experiences, developing joint action theories, and bringing these into practice in an investigative manner. Learning processes are brought about more organically within egalitarian relationships between the actors. Learning programs are problem focused. This type of learning project is likely to occur in adhocratic group work (for example, of movie makers), which is characterized by egalitarian relations between the actors

6.2.4 External Learning Projects

The group is inspired by action theories developed outside the organization (for example, new work methods developed by professional associations). The members of the learning group match their work to the action theories acquired externally. The content of learning programs is profession oriented. This learning-project type is assumed to be found in professional work (for example, of medical doctors), where professional associations outside organize the work of professionals inside the organization. The concept of work-related learning projects viewed from a network perspective seems useful to describe the various ways in which actors organize learning activities. It enables us to explain the variation that occurs by relating it to the type of work in which the learning project is conducted.

6.3 Problem Statement and Research Questions

There is some empirical evidence to indicate that learning projects are indeed very diverse in nature (Poell, 1996, Poell, Van der Krogt, & Warmerdam, 1997, Poell & Van der Krogt, 1997). These studies, however, tend to focus on the content and organizational structures in learning projects. They do not address the various strategies to deal with the tension between work performance and employee development in learning projects. They do not adequately describe the different interactions between the actors, nor do they explain why actors employ certain strategies. These questions are addressed in the present study.

Employees, managers, and HRD staff all use certain strategies in order to have the learning project correspond to their ideas and interests. Each strategy is a way to reduce the tension between work performance and employee development. Four types of strategies can be derived from the four theoretical learning-project types. Because of the expected relationship between learning projects and work, all strategies are likely to be employed in certain work types.

6.3.1 Individual Negotiation

In this strategy, tension is dealt with by individual negotiation between the actors about the specific learning program that each employee is creating. Employees are guided and assisted by managers and HRD staff on an individual contractual basis. This strategy is assumed to occur in entrepreneurial work.

6.3.2 Direct Representation

In this strategy, tension is reduced by direct representation of employees in the development of policies and programs dominated by managers and HRD staff. This strategy is expected in machine-bureaucratic work.

6.3.3 Continuous Adaptation

In this strategy, tension is dealt with by continuous adaptation of both work characteristics and employee qualifications. Work and qualifications are constantly attuned to each other and in a state of change. This strategy is likely to occur in adhocratic group work.

6.3.4 Professional Innovation

In this strategy, tension is reduced by employees' participation in professional innovation. Employees are externally inspired by newly developed work methods and adapt their work accordingly, facilitated by managers and HRD staff. This strategy is expected to be found in professional work.

In line with our network perspective on learning projects, all actors are expected to use their own strategies. The interaction between the actors and their strategies yields a certain configuration of strategies. The strategy configuration in the learning project can be more or less similar to the strategies of employees, managers, or HRD staff. This depends

on the extent to which all of them use the same strategies, and on the extent to which powerful actors can impose their strategy on the other actors.

Is this a valid image to describe how employees, managers, and HRD staff in learning projects reduce the tension between work performance and employee development? We conducted an empirical study of sixteen work-related learning projects to examine various types of strategy configurations and their relationship to the work relations between the actors. The following research questions were investigated.

1. Which types of learning projects can be distinguished on the basis of the strategies employed by the actors?
2. Do employees, managers, and HRD staff employ different strategies in learning projects?
3. Are the strategies that actors employ in learning projects related to the work relations between them?

The research model of the present study appears in Figure 6 2

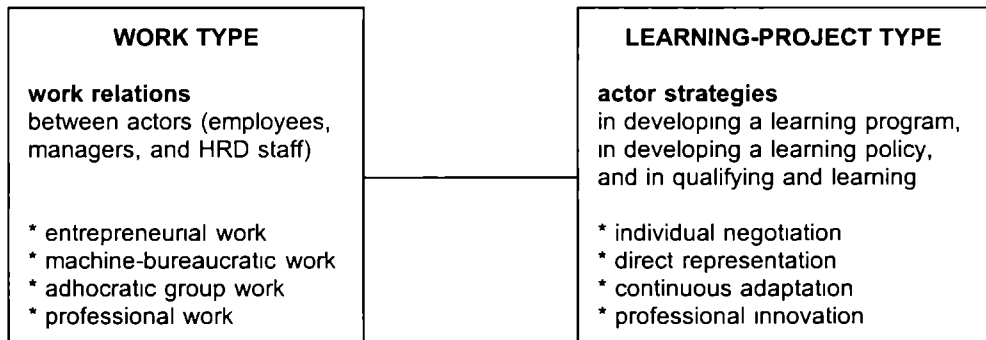


Figure 6 2 Research Model.

6.4 Research Method

6.4.1 Design

The study is a comparative analysis of sixteen learning projects conducted by employees, managers, and HRD staff. The learning projects were selected with a view to include cases featuring different work relations between the actors, especially along the machine-bureaucratic/professional dimension. The study was designed as a multiple case study combining qualitative and quantitative cross-case analysis (Miles & Huberman, 1994). Ninety-six people in six organizations took part. The number of participants per learning project ranged from three to twelve. An overview of the sixteen cases in terms of the participants, their organizations, and the themes to their learning projects, is provided in Table 6 2.

6.4.2 Procedure

All available documents of each learning-project case were studied, for example minutes of learning group meetings, proposals for learning programs, and evaluation sheets. Participants were selected for interviews on the basis of these documents and initial talks with key persons. Employees, managers, and HRD staff were interviewed about the learning project using a semi-standardized topic list. Interview topics included: participant's definition of the central problem; learning activities undertaken by the participant; the role played by the participant in the policy development, program development, and qualifying process, work relations. The interviews lasted sixty to ninety minutes and were tape-recorded.

Forty-one interviews for cases B1, B2, D1, D2, E1, E2, F1, and F2 were held from September, 1996 through June, 1997. Two to three page summaries were made by the interviewer and offered to participants for correction and legitimization. Twenty-seven summaries (65 %) were returned to the interviewer containing additional information. Analysis of these eight cases was performed using twenty-seven corrected and fourteen initial interview summaries, supplemented with the available documents.

Fifty-five interviews for cases A1, A2, C1, C2, C3, C4, D3, and D4, which were held from April, 1994 through June, 1995, were re-analyzed. Twenty-four full transcripts and fifty-five summaries of the interview sessions were used in the analysis of these eight cases, supplemented with the available documents.

6.4.3 Qualitative Analysis

A computer program for qualitative data analysis, called Kwalitan (Peters & Wester, 1990), was used to score interview scenes. In order to analyze the first two research questions, a qualitative analysis was conducted for each learning project, focusing on the activities undertaken by employees, managers, and HRD staff. The activities encompassed the development of a learning program, the development of a learning policy, and the actual qualifying and learning process. To determine the nature of the actors' strategies, their activities were compared with the four theoretical models of direct representation, continuous adaptation, professional innovation, and individual negotiation. In order to answer the third research question, the nature of work relations in each case was compared with the four theoretical models of machine-bureaucratic work, adhocratic group work, professional work, and entrepreneurial work.

To test the inter-rater reliability of the interview scores and improve the quality of the analysis, the actor strategies in four cases (namely, D1, D2, E1, and E2) were scored independently by a second assessor. The number of scores on which both assessors agreed equaled 62 %, initially, and eventually went up to 94 %. The changes in scores, which were made in order to solve the disagreements, had no fundamental impact on the image of the actor strategies created by the first assessor.

Table 6 2

General Characteristics of Sixteen Learning-project Cases

Organization	Case	Learning Theme / Problem	Participants
Institution for Mentally Handicapped	A1	developing a care vision	community supervisors
	A2	individual care planning	community supervisors
Electronics Firm	B1	optimizing work processes	process operators
	B2	improving internal communication	developers, technicians, process operators
Academic Hospital	C1	developing a new work method	medical doctors
	C2	introduction of new work equipment	nurses
	C3	multidisciplinary collaboration	medical doctors, paramedics
	C4	patient-centred care	nurses
General Hospital	D1	efficient work planning	chemical analysts
	D2	functional differentiation and collaboration	nurses
	D3	improvement of work climate	secretaries, administrative staff
	D4	improvement of work climate	chemical analysts
Night School for Adults	E1	open learning for adult students	teachers (liberal arts)
	E2	self-directed learning of immigrant students	teachers (Dutch as a second language)
Consultancy Firm	F1	the learning organization	HRD consultants
	F2	the learning organization	innovation consultants

6.4.4 Quantitative Analysis

To sustain and extend the initial analysis, the qualitative information was quantified. The actor strategies were scored on four nine-point Likert scales to reflect the extent to which they resembled each of the four theoretical models. For instance, if employees were found to use only the strategy of individual negotiation, this type scored '9' and the other types '1'. If managers employed both direct representation and continuous adaptation, these two types scored '5' and the other two '1'. This enabled us to compute the differences (in terms of the Euclidean distances) between the learning-project cases, as well as between the strategies of employees, managers, and HRD staff. A similar procedure was used to quantify work types. The work relations were scored on four nine-point Likert scales to reflect the extent to which they resembled each of the four theoretical models. The quantification procedure enabled us to conduct an hierarchical cluster analysis of both

learning-project types and work types, based on squared Euclidean dissimilarity coefficients.

6.5 Results

Table 6.3 describes the results of the qualitative analysis of sixteen cases. The learning projects were found to differ regarding the strategies used to organize learning activities. In some cases employees, managers, and HRD staff employed different strategies, in other cases actors used the same strategy. The cases were found to differ with respect to work relations. These results are elaborated below.

Table 6.3.

Sixteen Learning Projects Characterized by Work Type, Learning Activities, Actor Strategies, and Strategy Configuration.

Case	A1	A2	B1	B2	C1	C2	C3	C4	D1	D2	D3	D4	E1	E2	F1	F2
WORK TYPE	ew	ew	mw	pw/ew	pw	mw/ew	pw	mw/ew	ew/mw	mw/ew	mw	ew/mw	ew/pw	ew/mw	pw/aw	ew/pw
LEARNING ACTIVITIES																
* By Employees																
Policy Development	dr	pi/in	dr	dr/ca	pi/ca	dr	ca/pi	dr	dr	in/dr	dr	dr	ca	dr	ca/in	pi/in
Program Development	dr	pi/in	dr	dr/ca	pi/ca	dr	pi/ca	dr	pi/in/ca	dr/ca	dr	dr	pi	dr/in	pi/ca	pi/in
Qualifying and Learning	dr	pi/ca	dr/pi	ca/dr	pi/ca	dr	ca/pi	ca	dr	in	ca	ca	ca/pi/in	in	in/pi	pi/in
* By Managers																
Policy Development	dr	dr	dr	dr/pi	pi/ca	dr	pi/ca	dr	dr	dr/ca	dr	dr	ca	in/dr		
Program Development	dr	dr	dr			dr	in/ca	dr	dr/pi	dr	dr	dr	ca	dr		
Qualifying and Learning	dr	dr	dr			dr	ca/pi	ca		dr	ca	ca		in		
* By HRD Staff																
Policy Development	dr	dr	in	ca	pi/ca	dr	dr	dr	dr		dr	dr	pi	dr	in/pi	in
Program Development	dr	dr			pi/dr	dr	dr	dr		dr			pi/ca	dr	in	in
Qualifying and Learning	dr	dr	dr	ca	pi/ca	dr	dr	ca		ca					in	in/pi
STRATEGIES																
* Of Employees	dr	pi/in/ca	dr/pi	dr/ca	pi/ca	dr	ca/pi	dr/ca	dr	in/dr/ca	dr/ca	dr/ca	pi/ca	in/dr	in/pi/ca	pi/in
* Of Managers	dr	dr	dr	dr/pi	pi/ca	dr	ca/pi/in	dr/ca	dr	dr/ca	dr/ca	dr/ca	ca	dr/in		
* Of HRD Staff	dr	dr	dr/in	ca	pi/ca/dr	dr	dr	dr/ca	dr	ca/dr	dr	dr	pi/ca	dr	in	in
STRATEGY CONFIGURATION	dr	dr/pi	dr	dr/ca	pi/ca	dr	ca/pi	dr/ca	dr	dr/ca	dr/ca	dr/ca	ca/pi	dr/in	in/pi/ca	in/pi

Note. Four kinds of work: mb = machine-bureaucratic work, aw = adhocratic group work, pw = professional work, ew = entrepreneurial work. Four kinds of strategies: dr = direct representation, ca = continuous adaptation, pi = professional innovation, in = individual negotiation. An empty cell means the actor did not participate in the activities concerned

6.5.1 Types of Learning Projects

The variation in learning projects as compared with four theoretical types is indicated in Figure 6.3. On the basis of the strategies actors used, three clusters of learning projects emerged from the analysis. These were termed 'Extended Training' (n=6), 'Directed Reflection' (n=5), and 'Reflective Innovation' (n=5).

1. In 'Extended Training' learning projects, managers and HRD staff were found to be dominant in the policy and program development stages, whereas employees had more autonomy in the executing the learning program (usually when applying what they learned in their work). This type came close to the traditional training concept, extended with transfer-enhancing measures (Robinson & Robinson, 1989). The tension between employee and work development was reduced by involving employees in policy and program planning and by their applying in their daily work what they were taught.

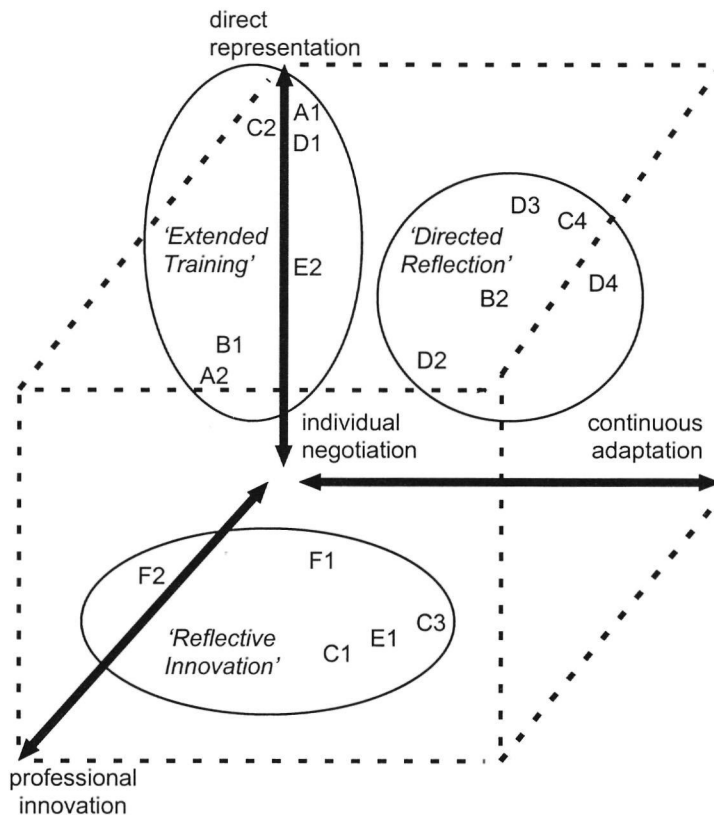


Figure 6.3. Characterization of Cases by Learning-project Type (Based on Strategy Configuration).

2. The 'Directed Reflection' learning projects had some resemblance to action-learning projects (Marsick & Watkins, 1990), in that the activities were problem-focused but still closely supervised by managers and HRD staff. Usually managers initiated the learning project by giving some deliberately ill-structured assignment to the employees, which they were to complete under the process guidance of HRD staff. The relationship between the actors could be termed 'forcedly egalitarian', simply because neither one of them knew the best way to solve the problem at hand. Tension was dealt with by approaching difficult problems with a permanent openness to adaptation, be it under rather strict management guidance
3. The 'Reflective Innovation' learning projects were profession rather than management driven. Employees usually set out to investigate the introduction of some innovative method in their work. HRD staff and managers played only marginal roles in these learning projects, whereas employees' reflection on their current practice established an important part. Tension was minimized by having employees translate professional innovations to their daily work in an investigative manner.

The main characteristics of the three learning-project types are summarized in Table 6.4. To provide a more concrete picture, three learning projects in a hospital setting are described below, each of which is typical of its kind

Table 6.4.
Three Empirical Types of Learning Projects.

	'Extended Training'	'Directed Reflection'	'Reflective Innovation'
Dominant Actor	managers and HRD staff in developing programs, employees in executing them	learners as a group under close supervision by managers and HRD staff	professional associations outside, represented in learners as a group
Organization of Learning Activities	linear planning by managers and HRD staff, isolated activities by employees	structured problem solving, investigating solutions according to plan	externally co-ordinated, developed organically

6.5.1.1 A Typical 'Extended Training' Case (D1). The participants are chemical analysts in a specialized hospital laboratory with highly skilled, non-routine jobs. The chemist working in the department normally plays a vital role in the introduction of new professional developments relevant to the analysts.

This case begins when the managers of the laboratory attend a training course on logistic improvement of business processes. They are urged to practice in their own laboratory what the HRD staff teach. They design a project planning to render the laboratory more efficient. Key activities are the measuring of time-per-task and the exact description of materials needed for each task. The analysts are involved in the project as well. They are asked to do the measurement and description part in small groups. The results will be fed back into the whole group.

The analysts are glad to be taken seriously, after feeling neglected in their complaints for a long time. A reorganization carried out two years ago has seen other laboratories, which perform more standardized jobs, being treated with priority. "Our lab", in the words of the analysts, "has been a mess ever since". The analysts think the best solution to this problem is not to measure up their work and then tighten the schedules, but to improve work co-ordination and grant them more opportunities for professional development. They say the managers are applying good logistic principles to the wrong kind of work.

Still, most of the analysts engage in a number of reflection sessions with the managers, devoted to describing the actual way they do their job. New work schedules are designed on the basis of this information. The material lay-out of the laboratory is improved. The analysts are quite satisfied with the new lay-out, but they claim the new work schedules do not function adequately, because their specialized tasks cannot be standardized as far as time planning is concerned. The analysts claim the managers are the ones who have learned most in this project, that is, the managers have finally found out how complex the analysts' work is. The managers are now thinking of other ways to make the laboratory more efficient.

6.5.1.2 A Typical 'Directed Reflection' Case (D2) The participants are a group of nurses in a hospital department with highly standardized functions. Over the last three years, the department engages in a small-scale experiment to differentiate the nursing function into senior, regular, and assistant functions, in order to improve the quality of patient care. The senior function is non-hierarchical and stands at the center of care planning. The assistant function is concerned with cleaning, feeding, and personal patient care. Together with the regular nurses and assistants, seniors have to co-ordinate patient care.

Senior nurses and assistants start working next to regular nurses, even though nurses did not (and still do not) see the difference between what a senior does and what they do. What is more, even some seniors do not see the difference. "How do you get regular nurses to do what should be done if there is no hierarchical relationship and if they know very well what should be done themselves?" Still, the seniors earn more money. The problem is nobody knows what differentiation of functions actually means, or how to go about achieving it successfully. The manager is worried, because her image of what seniors and nurses should do is far from realized. The seniors have their own meetings with the manager, in which they reflect on real-life situations that have taught them something new. Communication at work between seniors and nurses, however, is increasingly considered problematic, as witnessed in regular staff and work meetings.

Then the management decides the whole department will engage in a learning program. The training department is asked to run three separate groups: management will learn about coaching (two days), seniors will learn about supervision (three days), and nurses will learn about intercollegial consultation (one day). It is stressed the new skills should be practised as much as possible in daily work, and people really try their best during patient visits and work meetings. At a collective follow-up training session, the three

groups take the opportunity to actually practise together. As a result of this session, one of the HRD staff is asked to become a process counselor for the group of senior nurses and the group of nurses. Communication is felt to improve slowly, but nurses are still wondering why functions had to be differentiated in the first place. They have other ideas of how patient care can be improved without creating separate functions.

6.5.1.3 A Typical 'Reflective Innovation' Case (C1) The participants are a group of medical doctors who wish to introduce a complex new treatment in their hospital department, aimed at keeping premature babies with lung malfunctions alive. They start by collecting the information available on this treatment, but the documentation proves to be scarce. In the United States, one clinical hospital team that is fairly experienced in this treatment is found, so a delegation of the learning group pays a working visit to its American counterparts. It turns out the method and equipment the medical doctors import are not simply applicable in their own department. These have to be adjusted and improved, which is done by a multi-disciplinary group performing experimental treatments on sheep (instead of babies). Constant evaluation of these experiences allows a first group of medical doctors to qualify for operating the equipment and making the treatment work.

After a number of these trial sessions, the medical doctors are confident their efforts are effective. They decide to perform two experimental treatments on premature babies, which are quite successful. Each experiment is carefully evaluated by all experts involved, with a view to the adjustment of the treatment. The group members describe their first results in medical journals. They hold a scientific conference dedicated to the improvement of their method. Each medical doctor engages in self-study in order to address the range of problems arising during the experimental phase. The group members report that, besides qualifying for the treatment, incidentally they learn a lot about multi-disciplinary cooperation, both among the specialists and between medical doctors, nurses, and technicians.

During the course of the experimental phase, the treatment is conducted more frequently. The major problems appear to have been overcome. At this point, nurses and medical doctors are invited to attend a training course offering basic knowledge about the new treatment. Contrary to the nurses, the medical doctors fail to show up for these training sessions. They prefer to learn 'at the bed site', reacting to problems as they occur and benefiting from the experiences that others (for example, nurses) have had performing the treatment. Each single treatment is still evaluated groupwise, sometimes leading to the adjustment of protocols in order to perfect the method. And so, gradually the treatment has become a routine operation.

6.5.2 Strategies of the Different Actors

In order to answer the second research question, the strategies employed by employees, managers, and HRD staff were compared. The results from this analysis appear in Table 6.5. On average, in these sixteen configurations, the strategy of direct representation was dominant, but more so among managers and HRD staff than among employees.

Table 6.5

Actors' Use of Strategies in Three Learning-project Types.

Strategy	Actors	Employees	Managers	HRD Staff	Strategy Configuration
Individual Negotiation		2.31	1.43	2.13	1.69
	ET	2.50	ET 1.50	ET 1.33	ET 1.17
	DR	2.00	DR 1.00	DR 1.00	DR 1.00
	RI	2.40	RI 2.00	RI 4.20	RI 3.00
Direct Representation		4.31	6.00	5.94	5.13
	ET	6.33	ET 8.50	ET 8.50	ET 8.17
	DR	5.20	DR 6.00	DR 5.80	DR 5.60
	RI	1.00	RI 1.00	RI 3.00	RI 1.00
Continuous Adaptation		2.56	2.50	2.12	2.56
	ET	1.33	ET 1.17	ET 1.00	ET 1.00
	DR	3.40	DR 2.60	DR 3.80	DR 3.60
	RI	3.20	RI 5.00	RI 1.80	RI 3.40
Professional Innovation		2.63	1.86	1.63	2.13
	ET	2.17	ET 1.00	ET 1.00	ET 1.33
	DR	1.00	DR 1.40	DR 1.00	DR 1.00
	RI	4.80	RI 4.33	RI 3.00	RI 4.20

Note. Measured on nine-point Likert scales. Three types of learning projects: ET = 'Extended Training', DR = 'Directed Reflection', RI = 'Reflective Innovation'. Results from paired samples t-test: direct representation by managers / employees: $t=2.011$, $df=13$, $sig=.066$; direct representation by HRD staff / employees: $t=1.979$, $df=15$, $sig=.066$; professional innovation by HRD staff / employees: $t=-2.070$, $df=15$, $sig=.056$.

Employees were found to equally employ the strategies of professional innovation, continuous adaptation, and individual negotiation. Managers least often used the strategy of individual negotiation, while HRD staff rarely participated in professional innovation.

Looking at the actor strategies in the three learning-project types, the general pattern was reproduced in 'Extended Training'. Employees used the individual negotiation strategy as a (limited) counterweight to the emphasis by managers and HRD staff on direct representation. 'Directed Reflection' was also characterized by direct representation, but HRD staff and employees balanced this dominant strategy with continuous adaptation. In 'Reflective Innovation', employees mainly focused on professional innovation, managers emphasized continuous adaptation, and HRD staff employed the strategy of individual negotiation.

Focusing on the extent to which all actors used similar strategies, three groups of cases emerged. First, cases where all actors employed one and the same strategy (D1, A1, C2, and C4), which turned out to be mostly direct representation. Second, cases with small differences between the strategies of actors (E1, C1, D3, D4, B1, and F1). Mostly HRD staff emphasized a somewhat different approach than employees and managers, but

were not able to dominate the learning project. Third, cases where actors differed considerably in the strategies they employed (D2, E2, A2, C3, B2, and F2). Usually in these learning projects, employees stressed professional innovation or individual negotiation, while managers and HRD staff emphasized direct representation.

6.5.3 Types of Work

As shown in Figure 6.4, the sixteen cases were found to cluster around three types of work, namely machine-bureaucratic work ($n=5$), entrepreneurial work ($n=7$), and professional work ($n=4$). In no cases the work relations were found to resemble those expected in adhocratic group work. A comparison between Figures 3 and 4 shows the variation in learning-project types to exceed the variation in work types.

The participants in this study deemed to perform machine-bureaucratic work included the process operators, nurses, and secretaries; entrepreneurial work was carried out by the community supervisors, chemical analysts, teachers, and innovation consultants; professional work was conducted by the process developers, medical doctors, and HRD consultants.

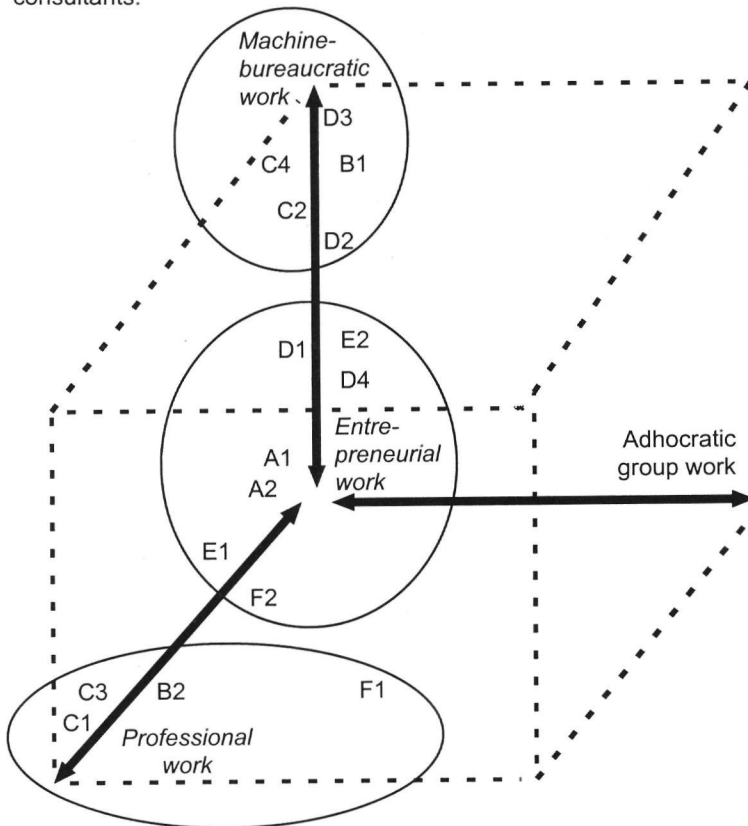


Figure 6.4. Characterization of Cases by Work Type (Based on Work Relations).

In order to answer the third research question, the learning-project types for sixteen cases were cross-tabulated with the work types, as shown in Table 6.6. No 'Extended Training' learning projects were found in professional work, where 'Reflective Innovation' was dominant. Similarly, no 'Reflective Innovation' learning projects emerged in machine-bureaucratic work, where 'Directed Reflection' was most encountered. 'Directed Reflection' learning projects appeared in all three work types, although mostly in machine-bureaucratic work. Entrepreneurial work mainly produced 'Extended Training' learning projects.

Table 6.6.

The Relationship Between Learning-project Type and Work Type.

Work Type	Machine-Bureaucratic Work	Entrepreneurial Work	Professional Work	<i>n</i>
Type of Learning Project				
'Extended Training'	2	4	0	6
'Directed Reflection'	3	1	1	5
'Reflective Innovation'	0	2	3	5
<i>n</i>	5	7	4	<i>N</i>=16

Note. Chi-square=8.274, df=4, sig.=.082

6.6 Conclusions and Implications

This study demonstrates that work-related learning projects differ with regard to the strategies employed by the actors. These differences are shown to be related to the type of work in which the learning project is conducted. Although employees, managers, and HRD staff use different strategies in general, in some learning projects all actors employ one and the same strategy. This common strategy can either correspond to the current work type or form a deliberate collective attempt to change work. In most learning projects, however, the actors disagree to a greater or lesser extent about what strategy to apply. In those cases, the work relations between the actors influence the learning-project type that emerges. In professional work, employees are powerful enough to strongly emphasize their strategy of professional innovation. In machine-bureaucratic work, managers usually have the power to impose their strategy of direct representation on the employees, with some element of either individual negotiation or continuous adaptation to it. HRD staff are found to have relatively little power to exert in learning projects. Their influence is maximized when they adapt to the direct representation strategy employed by managers.

The study shows that a network perspective on work-related learning can be a useful theoretical tool to describe and explain important elements of HRD practice. First, the network perspective enables us to show that employees, managers, and HRD staff can have different views, interests, and strategies in organizing work-related learning activities. Managers are not the only ones who decide what employees should learn. HRD staff are not the only ones who create learning programs for employees. Employees also create learning policies themselves, they develop learning programs, and thus they set out to learn what they consider most relevant, in ways that suit them best. Managers are likely to have different ideas and use other strategies. HRD staff will act according to their professional standards, but also need to take into account what managers and employees expect them to contribute. Second, therefore, the network perspective directs attention to the interactions between the actors and the various ways in which a collective learning-project strategy can emerge. Whereas some actors emphasize the importance of work performance, others give priority to employee development. The four theoretical models of learning-project strategies, which seem to have an empirical basis, demonstrate different ways for actors to deal with this tension between work performance and employee development. Third, the network perspective shows the impact of work characteristics on the organization of learning activities. It provides a plausible explanation for the fact that different strategies are applied to organize work-related learning projects. Work relations influence learning projects, but they do not necessarily determine them. This is because actors always have a certain organizational choice and, moreover, because learning relations between actors tend to differ from work relations. All in all, the network perspective does justice to the political nature of HRD practice by building a theoretical framework around it that is useful to describe and explain what happens.

Learning projects may also be viewed as a practical tool to systematically combine various kinds of learning activities. Employees, managers, and HRD staff can use the theoretical concepts that have been presented as a frame of reference and discussion in the organization of their own learning activities. The strategies in the various learning-project types can inspire actors to create learning projects that meet their own needs. The different interaction models that have been described can help actors negotiate about learning-project arrangements that combine work performance with employee development. Actors' awareness of the impact of work characteristics can contribute to an organization of learning projects well-adjusted to the possibilities that the work offers.

The main implication of this study for HRD research is the need to recognize that actors use different strategies. Researchers interested in the dynamics of work-related learning cannot limit themselves to take into account only the strategies of HRD staff and managers, since the strategies of employees may well turn out to be different. It is in the interaction between the actors and their respective strategies that work-related learning is organized. The work type in which learning projects are studied should also be taken into account, because it influences the strategies actors use. A diagnosis of these elements from a network perspective seems crucial to understand the dynamics of work-related learning.

Chapter 7. Conclusions, Discussion, and Implications

How can actors organize learning projects in order to learn and improve work at the same time? At the outset of Chapter 1, we assumed that employees, managers, consultants, and other actors have several ways of organizing learning projects that are relevant for both work performance and employee development. Two research questions were investigated over the chapters that followed. First, **which strategies do actors actually use in organizing work-related learning projects?** Second, **how are learning and work related in learning projects?** The first question was at the heart of all chapters, whereas the second question was investigated theoretically in Chapters 1 and 2, and empirically in Chapter 6. Empirical data were collected from a total of 135 participants (employees, managers, consultants and trainers) who conducted 24 learning projects within various work types, in order to answer these questions. An overview of these cases is provided in Table 7.1. This final chapter wraps up the main conclusions of the studies, discusses their contribution to understanding about the two main research questions, provides some critical notes on the network perspective that was used, and lists the implications for further research into organizing work-related learning.

Table 7.1
Overview of All Learning-Project Cases that Were Investigated

Study Described in	Number of Learning Projects	Organizational Context of the Cases	Number of Participants Interviewed
Chapter 3	4 cases	4 probation institutions	n=24
Chapter 4	4 cases	4 educational consultancy firms	n=15
Chapter 6	16 cases	6 companies and institutions	n=96
Total	24 cases	14 organizations	N=135

7.1 Summary of the Main Conclusions from the Studies

Chapter 2 provided an overview of the literature on work-related learning projects. It was concluded that most authors focus strictly on developing employees' competencies, whereas the importance of simultaneous work development is underscored in the literature. Learning projects are viewed as functional for work, with employees taking part in learning activities in order to adapt their qualifications to the work structures that have changed. It was argued that employees should be regarded within learning projects as (co-)organizers of work processes that offer certain learning possibilities. A variety of possible learning-project types were described that can be organized in order to have actors solve their work-related problems.

Chapter 3 presented a method of organizing project-based learning, consisting of a diagnostic phase, a data feedback phase, and a learning project phase. This method was compared with a number of action-based learning-methods described in the literature. Practical experiences with the project-based learning-method in probation institutions indicated that, even if the diagnosis and data feedback were conducted similarly, four quite different learning projects emerged in different settings. Despite these differences, however, the projects were deemed effective by the actors, probably because each project was geared to the participants' interests and the organizations' possibilities by thorough diagnosis and feedback. Although the focus of this particular study was not on the relationship between learning projects and work characteristics, there was some empirical evidence to mark its impact.

Chapter 4 described an empirical study of four learning-project cases in educational consultancy firms. The cases were found to differ with respect to the action theories of the actors, the learning processes in which they participated, and the structural arrangements that they created. Two types of learning projects appeared: a liberal-vertical one in which individual employees themselves gathered learning and training activities, and an external-horizontal one in which group reflection and the development of professional norms were stressed. Some additional evidence came up for the relationship between learning-project types and work types, although this particular study investigated only the differences among learning projects.

Chapter 5 presented a methodological account of the entire research process toward establishing an empirically validated learning-project typology. Seven stages were distinguished in the research process during which a shift occurred in the practical goal of the research project, the underlying theoretical propositions, and the research methods that were used. From one best way for consultants to design a learning project, the focus shifted to employees and other actors organizing learning projects in various ways. Learning projects were no longer considered to be a management tool, but rather an 'arena' (Burgoyne & Jackson, 1997) for all actors to accomplish both employee development and work improvement. In the process of operationalizing the concept of learning projects, inductive and deductive methodical procedures were alternated, continuously going from theoretical models in progress to practical experiments and back. The study yielded a typology of learning projects that is theoretically based, empirically validated, and of practical use to actors.

Chapter 6 contained an empirical study of sixteen learning-project cases in six organizations, which investigated specifically the relationship between learning projects and work. Work-related learning projects were found to differ with respect to the strategies that the actors used. The differences were related to the work type. Although employees, managers, and consultants employed different strategies in general, the same strategy was used by all actors in some learning projects. This common strategy either reinforced the current work relations or proved to be an attempt by all involved to change some aspect of work. In most learning projects, however, the actors more or less disagreed about the best strategy. In those cases, the work relations among the actors had an

impact on the learning-project type that resulted. In professional work, employees dominated learning projects using a strategy of professional innovation. In machine-bureaucratic work, managers imposed a strategy of direct representation on the employees, mixed with either individual negotiation or continuous adaptation. Training consultants had only limited power in learning projects, which was maximized if they adhered to the managers' direct representation strategy.

7.2 Discussion

What have the five studies taught us about our two main research questions? The next two paragraphs deal with the strategies used by actors in organizing learning projects and with the relationship between learning and work in learning projects. The third paragraph discusses the strengths and limitations of the network perspective that was used throughout the studies.

In the following discussion about the answers to the research questions, it should be borne in mind that these are based upon an analysis of only 24 learning-project cases conducted in 14 organizations. The selection of cases was not randomized, but efforts were made to include both large and small organizations, both in the profit and the not-for-profit sector, that featured different work types. All participants selected were employees at the shop floor level of these organizations, their line managers, and internal or external trainers or consultants employed by the organization. All participants had completed a secondary vocational or higher education⁸, with the exception of the employees in one learning-project case (B1, described in Chapter 6), who worked as process operators at the primary vocational education level⁹.

7.2.1 Actors Organizing Work-related Learning Projects

The first conclusion to be drawn from the studies springs from the actor perspective that was used. **Employees are clearly (co-)organizers of learning projects.** Not only do they take part in the learning program being executed, they create those learning programs and develop learning policies within the project themselves as well. The activities that trainers, consultants, and managers undertake in learning projects are important too, but secondary to employee-driven learning activities. Employees have various opportunities to (co-)organize work-related learning projects **according to their own ideas and interests** with respect to learning. Their activities are not just reactions to the strategies employed by managers and consultants, which are emphasized in most of the literature (e.g., McLagan, 1989; Van Ginkel, Mulder, & Nijhof, 1994), but deliberate and self-directed actions. The added value of using a network perspective on learning projects is that the

⁸ 'mbo'/'hbo'/'wo' in the Dutch educational system

⁹ 'vbo' in the Dutch educational system

many learning activities conducted by employees themselves become visible and systematizable, both to themselves and to others.

Second, **the strategies employed in organizing work-related learning projects tend to differ from one actor to another.** Employees seem to prefer other strategies than managers do, who themselves use different strategies than training consultants are likely to. Nevertheless, it is not uncommon for learning projects to feature one organizing strategy supported by all actors involved. This may happen if everyone agrees it is in their best interest to implement changes in a particular direction, or if less powerful actors decide to co-operate within the dominant strategy to avoid worsening their situation. Frequently, however, employees used a strategy of professional innovation, whereas managers (and training consultants as their sparring partners) mainly employed a strategy of direct representation. **Employees want to acquire qualifications that are useful within a professional discipline** (rather than within one organization only) and adjust their work accordingly. The importance of this external/professional orientation is rarely recognized in the literature, as Chapter 2 demonstrated. Managers assisted by training consultants, on the other hand, prefer to have (representatives of) the employees provide the necessary information to design good learning programs preparing the employees for changes in their work. Their orientation is usually more vertical, and well-elaborated in the literature. The fact that employees express their own ideas about what and how to learn and organize activities to accomplish it themselves, should not be confused with a resistance to change (cf. Hoff & McCaffrey, 1996). All actors act according to their own views on why and how to change, be it within their capabilities and the possibilities of their position (cf. Van der Krogt, Vermulst, & Kerkhof, 1995; Bennebroek Gravenhorst, 1996). The studies, especially those described in Chapters 5 and 6, have given content to these strategies that actors use in learning projects.

Third, when actors employ different strategies in learning projects, **the power relations among them determine whose strategy will dominate.** The interesting element to this point is that powerful work actors are not necessarily powerful learning actors, and vice versa. But in learning projects the twain meet. Employees are generally the most powerful learning actors, which is why it is so important to start from their activities. Employees are also quite powerful work actors, but in many organizations managers are more powerful in organizing work. Training consultants play no significant role in the labor network and it should be concluded from the studies that an important role for them is limited to only some types of learning projects. When all these actors participate in a learning project, employees as the most powerful learning actors should be expected to dominate it. This did not turn out to be the case in all learning projects that were investigated. Managers were found to be dominant actors in quite a few learning projects. There may be two explanations for this finding. One explanation is that learning projects are about learning as well as about work improvement. Managers are likely to play a more important role regarding work improvement activities. Another explanation is that employees are not always in a position to impose their learning-project strategy upon the other actors. In other words, powerful work actors can sometimes overrule powerful

learning actors in learning projects. This point will be further elaborated below, because it touches on the question of the relationship between learning-project types and work types. The power dimension, however, proves to be crucial for an understanding of work-related learning (cf. Pettigrew, Ferlie, & McKee, 1992; Cervero & Wilson, 1996; Reynolds, 1997; Dovey, 1997), even if others assert it plays no significant role in organization (Donaldson, 1996).

Fourth, **actors involved in organizing learning projects can choose from a variety of strategies** to inspire them. **Four theoretical models of learning-project strategies** were distinguished and elaborated for this purpose in Chapter 5. In a *direct representation* strategy, the management decides on new work policies, the work-preparation staff translates these into work programs, and the education staff designs a learning program in which the learning group takes part. In a *continuous adaptation* strategy, the learning group sets out to solve complex work problems by reflecting on experiences, developing joint action theories, and bringing these into practice in an investigative manner. In a *professional innovation* strategy, the group is inspired by action theories developed outside their organization (e.g., by new work methods developed by professional associations). The employees in the learning group adjust their work to the new externally acquired action theories. In an *individual negotiation* strategy, individual employees come together to enrich their own work improvement and learning programs with group reflection on their experiences. All group members thus create their own individual learning project.

Three empirical hybrid strategy configurations were found and described in Chapter 6. In *extended training* learning projects, managers and training consultants involved the employees in policy and program planning and ensured there were possibilities for them to apply individually in their daily work what they had been taught on or off the job. So, managers and training consultants were dominant in the policy and program development stages, whereas employees had more individual autonomy in executing the learning program. Policy development, program development, and program execution took place in this fixed order. The learning activities undertaken by the employees were quite isolated from each other and largely separated from daily work activities. This learning-project strategy approached the traditional training concept, extended with transfer-enhancing measures (Robinson & Robinson, 1989). In *directed reflection* learning projects, employees' activities were problem focused but closely supervised by managers and training consultants. Difficult and deliberately ill-structured work problems were tackled by the employees with a continuous openness to adaptation, be it under rather strict management guidance. Usually, managers were the ones who initiated the learning project, which the employees as a group were to follow through under the process guidance of training consultants. Because none of the participants knew the best way to solve the problem on beforehand, planning and execution of learning activities were alternated by investigating possible solutions and learning from these experiences. This learning-project strategy showed similarities with the concept of action-learning projects (Marsick & Watkins, 1990). In *reflective innovation* learning projects, employees

transferred professional innovations to their daily work in an investigative manner, through reflection on their current practice and experiments with new ways of working. These learning projects were profession rather than management driven (e.g., aimed at introducing an innovative work method). Training consultants and managers did not play key roles, whereas employees' reflection on their current practice constituted a major part of the learning project (cf. Schon, 1983). Policy development, program development, and program execution were organically integrated and externally co-ordinated activities, in that the learning group of employees was inspired by ideas developed outside their organization (but inside their profession), which they investigated openly but methodically.

Obviously, although some actors may be more inclined to use certain strategies that they consider relevant, and although the present context of the learning and the labor network may limit some practical possibilities, actors do have many choices to organize learning projects. The theoretical models, the empirical configurations, and even the practical case descriptions that this thesis has produced can be used by those involved in learning projects as multiple frames of reference (Bolman & Deal, 1991). These can inspire the actions and reflections undertaken within learning projects (Marsick & Watkins, 1991). They can also provide an image of the interactions that are likely to take place when actors use a certain strategy, or if actors employ different strategies that produce opposing forces (Mintzberg, 1989). In short, the models and configurations constitute a number of action theories (Argyris & Schon, 1978) that actors can adopt in organizing a learning project (cf. Bouwen, De Visch, & Steyaert, 1992).

All actors can furthermore **apply a method of project-based learning** in order to use the various models more systematically. This method and some practical experiences have been described to some detail in Chapter 3. The method involves making a diagnosis of the current learning network, the present labor network, actors' momentary action theories, and of the changes likely to occur in this respect; feeding back the results from the diagnosis to the participants in order to reach mutual understanding about the situation and the changes needed; and conducting learning projects building on the results of the diagnostic and feedback activities, that is, taking into account the action theories of the actors and the existing situation regarding the organization of work and learning. The study described in Chapter 3 demonstrates how this method can help actors conduct worthwhile learning projects.

Finally, **training consultants will have to come up with new well-elaborated action theories** in order to professionalize their discipline. The studies bring to the fore an image of training consultants positioning themselves mainly as tools of management, which is certainly in line with most of the literature (e.g., Robinson & Robinson, 1989; Carnevale, Gainer, & Villet, 1990; Bergenhenegouwen, Mooijman, & Tillema, 1992; and so forth). Further research into the learning-project strategies of HRD professionals is intended to test this image and to develop best practice action theories (Poell & Chivers, 1998). If training consultants want to become more influential actors within modern organizations, they will have to act more independently from the management's strategies in the long run. A crucial first step in this direction would be to stop focusing only on the

how?-questions with respect to learning and start linking them to the appropriate what?-questions. In other words, training consultants should position themselves as actors within the learning AND the labor network. They should acknowledge that learning is always related to its (work) context in one way or another, as the next paragraph intends to show

7.2.2 The Relationship between Learning and Work in Learning Projects

The first conclusion to be drawn in this respect is that within a learning project **participants are able to combine the development of their competencies with the improvement of work.** Learning and work are related at this very level of the activities undertaken by the learning group. The learning activities are centred around a theme or problem relevant for work. Work activities within a learning project become a context for participants to investigate problems, to develop shared images of possible solutions, to experiment, to gain sheer new experiences, to reflect upon these together. Participation in such learning activities broadens the work action repertoire of those involved. Important to note is that work activities are not regarded primarily as appropriate didactic tools for participants to learn within a facilitator-directed program, as in action learning sets (McGill & Beaty, 1991). The learning-project concept focuses on the various strategies of actors in organizing work-related learning activities, and on their interactions in creating problem-based policies, programs, and practices as a learning group. This thesis demonstrates that there is learning potential inherent in daily work (cf. Kraayvanger & Van Onna, 1985), and that employees actively use their own organizing strategies to learn both HOW and WHAT they consider relevant.

Second, learning projects provide **several different strategies** for actors to combine learning with work improvement according to their views and interests. Four theoretical models and three empirical configurations were distinguished that demonstrate how actors can do justice to employee development and at the same time take into account the work performance. Theoretically, this can be accomplished by strategies of direct representation, continuous adaptation, professional innovation, and individual negotiation (which have been elaborated in Chapter 5). The three empirical strategy configurations that emerged as hybrids were labeled extended training, directed reflection, and reflective innovation (which have been described in Chapter 6). All these different possibilities in organizing learning projects demonstrate that there is more to HRD than enabling employees to adjust to work and organizational changes as efficiently as possible by designing the appropriate learning programs. Nevertheless, this perspective on corporate education remains the dominant one in the literature (Swanson, 1994; Jacobs & Jones, 1995; Erlicher, Moerkamp, & Sommerlad, 1995; Onstenk, 1997). The studies show that work and organizations can also be adapted in order to fit with employees' current or newly acquired competencies. Many learning projects, however, were shown to feature both approaches at the same time, for one thing because they were based on learning by solving work-related problems, but also because the actors usually brought both competing strategies into their learning projects. In this sense, the thesis contributes to enabling actors to bring about alternative and multi-faceted learning arrangements

Third, the **learning-project type is related to the type of work** in which it is conducted. But, as expected, **no one-on-one relationship** was found. The study described in Chapter 6 demonstrated that a certain type of learning project is likely to be organized in a certain type of work (cf. Table 6.6, *ibid.*). But also other types of learning projects occur in a particular work type. And also other types of work are associated with a particular type of learning project. This, however, does not imply that 'anything goes'. Not all types of learning projects occurred in all work types. The extended training type of learning project was not found in professional work. Machine-bureaucratic work did not feature the reflective innovation type of learning project. One explanation for this finding may lie in the limited number of cases investigated ($n=16$). The learning project / work combinations that were not found in this sample may turn up as the number of cases is increased. It might be possible to find reflective innovation in machine-bureaucratic work and extended training in professional work, but it seems unlikely that these combinations should occur.

The learning-network theory (LNT) explanation for the 'fuzzy' relationship between learning-project type and work type springs from the actor perspective employed. Dominant actors in the labor network (often the management) are powerful enough to impose their organizing strategy upon other actors in the learning project. Nevertheless, because the domains of learning and work have different power relations, the dominant learning-project actors (usually the employees) have a choice. They can either adapt to the dominant actor's strategy or try to impose their competing strategy. In the latter case, all kinds of variation in interactions begin to occur.

But this line of thought assumes that the dominant actor wants a learning-project type to fit with the current work type, and that the other actors do not. Now let us suppose that all actors agree about the necessity of organizing a learning-project type that does not exactly match with the work type. For instance, both the management and the employees in a machine-bureaucratic work setting are convinced that, in order to make work more team based, a horizontal type of learning project is required. Even if the actors could agree about this, it is unlikely that such a combination should occur.

The reason for this lies in the structural learning arrangements associated with machine-bureaucratic work, which influence the action theories of the learning-project actors to such an extent that their possibilities are strongly limited. In other words, the work hardly provides the infrastructure for a horizontal learning project to emerge. The actors are not in a position to use the learning-project strategy they prefer. The existing work content, work relations, and work climate prevent a completely new learning content, learning relations, and learning climate from coming suddenly into being (cf. Figure 1.3). The actors cannot be expected to be capable all at once of organizing activities that were inconceivable within the existing labor and learning networks (Ros & Boer, 1997; Hoogerwerf, 1998). This might explain why so many efforts to implement team-based work in machine bureaucracies have failed (Fruytier, 1994).

What a learning project could do, is introduce some new (in this case, horizontal) elements into the existing labor and learning network, so that the actors can experiment

with new ways of organizing work-related learning (Poell, Tijmenssen, & Van der Krogt, 1997). By broadening their action repertoire to include new ways of thinking and doing, employees are enabled to gradually improve both the work and their competencies. From the new situation thus created, actors could proceed by investigating new types of learning projects. In this perspective, learning projects can bring about incremental changes in order for actors to overcome the strong impact of existing structural conditions on their action repertoire

7.2.3 Strengths and Limitations of the Network Perspective

The LNT perspective that was employed throughout all chapters has proven to be a useful frame of reference to describe and explain how work-related learning projects are organized. It seems to be able to meet the expectation of providing an answer to the criticism raised in Chapter 1. The **main strengths** of the network perspective as an alternative view, in short, include the following.

First, it focuses on people. Employees are at the heart of organizing work-related learning, as core actors with their own relevant ideas and interests. Employees turn out to be active organizers of their own sets of learning activities, quite often independently from the strategies of training consultants and managers. In the network perspective, actors always have various options for action, but these are constrained by the context that they have (re-)created themselves. Organizational systems and structures are not viewed as abstract entities beyond the influence of people, but as dynamic creations that do have an impact on people's choices but can be (gradually) changed by them as well.

Second, it emphasizes a multi-faceted approach. The different strategies that actors use reflect diverse ways in which learning can be organized, for instance, along vertical, horizontal, and external dimensions. Although the LNT stressed the importance of focusing on the various actor strategies associated with moving along these dimensions, the exact content of the strategies remained to be clarified. A major contribution of this thesis has been to provide a deeper insight into the content of these strategies as used by actors in learning projects.

Finally, the network perspective avoids outright functionalism. The ever-present tensions between learning and work, and the ways in which actors deal with them, are thematized instead. It demonstrates that work can also be adjusted to be more in line with people's competencies. If this approach is taken seriously, it can contribute to preventing a learning elite from growing stronger.

Notwithstanding the above-mentioned strengths, there are also **limitations** to the network perspective on learning projects.

First, as a result of employees being right at the centre, the focus is on organizing work-related learning at the shop floor level only. Unlike much of the literature, the network perspective is not primarily concerned with issues such as management development and organizational learning. Perhaps it can provide some helpful insights in these domains as well, but they are not the main focus of attention. Learning projects can probably be

organized at every level of organizational life, but the conclusions that have been put forward in this thesis apply to learning projects in the operating core of an organization only

Second, 'learning' has been conceptualized as the participation of people in activities, leading to changes in their action theories. As a consequence, the focus is not on how mental learning processes operate within individual people, but rather on the social processes occurring among people as they organize learning activities. A learning project is a construct allowing people to think of a broad range of diverse work-related learning activities that they organize as a meaningful whole. It is assumed (and has been investigated in our various studies) that people extend their action repertoire by engaging in these activities. Whether 'learning' in the psychological sense has occurred was no object of study in this thesis. It would be interesting for further research to supplement our social-organizational learning perspective with a more psychological (e.g., constructivist; cf. Bouwen & Fry, 1996) perspective, in order to find out which particular learning outcomes are associated with participation in different learning projects.

Third, the network perspective assumes that people are self-conscious actors, who act and reflect explicitly on the basis of their theories and interests. This is probably the case only to a certain extent. During the process of data collection, many respondents only became fully aware of their (different) views and interests because the interview questions evoked responses around these topics. They may not play such an explicit role in everyday learning activities. But implicit theories are known to be quite relevant as well in guiding people's actions (Argyris & Schön, 1978). The network perspective makes it possible for actors, including researchers, to make their theories explicit and sensitive to change. This seems to be a more fruitful approach than labeling people's actions as irrational or dysfunctional simply because they differ from the dominant (usually management or expert) point of view

Finally, the network perspective does not provide absolute norms as to what way of organizing learning projects is better or more effective. Its nature is less normative than it is descriptive, explanatory, and action-oriented. It is left to the actors to decide on issues of effectiveness or other output criteria. The network perspective stipulates that it is in the interactions among the actors that these norms are formed and altered. What it offers is a wide variety of possibilities to link learning to work, and an insight into strategies for actors to deal with immanent tensions in this area. As such, it provides a frame of reference to guide people's actions and reflections in organizing work-related learning projects.

7.3 Implications for Further Research

This final paragraph deals with the implications for further research that can be inferred from the studies presented. A distinction is made between the implications for the methodology of research into organizing work-related learning, and for the content areas of this research.

7.3.1 Research Methodology

In view of the limited number of learning-project cases ($n=24$) involved in the studies described, it is recommendable to investigate more cases in order to make the conclusions more plausible and more generalizable. Now that the concept of learning projects has been operationalized to such an extent that it can be made visible in organizational reality, it is possible to systematically study learning projects in other types of organizations with other work types. The question, then, is how to proceed methodologically with this research.

At the outset of this research project, before the first study, one of the intentions was to design a standardized instrument to determine learning-project types (in terms of structures). As described in Chapter 5, the introduction and consequent application of the network perspective gradually led to a different research objective (more focused on bringing actor strategies to the surface). In the words of Guba and Lincoln (1994), a move occurred from a more (post-)positivist to a more critical but mainly constructivist research paradigm. It was recognized that organizational actors would benefit less from specific guidelines for action derived from some 'grand' theory, than from 'local' frames of reference (action theories) to confront their own views. Local theories, however, are by definition hard to measure using standardized instruments. Indeed, the four theoretical models of actors' learning-project strategies described in Chapter 5 could be further operationalized into a questionnaire to be administered to learning-project participants. But would this be a sensible approach?

Probably not. Actor strategies are very context-dependent. Developing a standardized questionnaire in order to measure them would result in either an instrument that can be used in certain work contexts only, or one using such context-independent items that participants would not know how to relate them to their specific set of learning-project activities. It seems more worthwhile to develop protocols for actors to use learning-project models in order to make sense of their own learning activities. The methodological approach known as action research can be useful in this respect (Toulmin & Gustavsen, 1996; Hendry, 1996; Easterby-Smith, 1997). It implies that the researcher sets out to gradually develop local concepts in cooperation with the field of practice. This means an iterative research process in which practical experiments are conducted and constantly alternated with the further elaboration of local theoretical models. Both the participants and the researcher learn during such processes as they try and make sense out of their situation and progress. Actors can frame their own actions within a number of learning-project models, discuss the differences between them, engage in further action and reflection, adapt their current theories, try out new ways of learning and working, adjust their frames of reference accordingly, and so forth. In context-dependent counseling of such processes lies a potential new role for training consultants operating as action researchers. The LNT perspective can be applied as a descriptive framework in order to ensure the comparability of the various learning-project cases and thus improve the generalizability of the conclusions that are drawn.

7.3.2 Areas of Further Research

A first set of topics for further (action) research has already been mentioned above. The operation of the project-based learning method should be investigated in more different work contexts. This thesis has focused upon a relatively well-educated population of employees. It should be clarified whether the concept of work-related learning projects can also be applied for the sake of less-educated workers. To take this point even further, only employed people who engaged in learning projects were studied. In order to prevent a learning and working elite from gaining further momentum, the possibilities of the learning-project concept for the benefit of unemployed people should be investigated. It is our conviction that the learning-project concept can be successfully applied for the benefit of other groups of people as well. Both the content of the actor strategies, the impact of the power relations among the actors, and the context in which they operate will differ from the learning projects in this thesis. These elements, however, form the main objects of investigation in this area.

Another area of further research that has already been referred to earlier are the (new) roles of trainers and consultants in work-related learning projects. Which learning-project strategies could they develop in order to make their mark on organizational life? This question should not be narrowed down to investigating didactic teaching strategies, as so often happens (Foucher, 1996, Phelan, 1996). In our view, it has more to do with contributing to a learning climate that is right for the context at hand (Van Moorsel, in preparation) and with assisting people to link various work and learning activities together to form learning projects. Especially the learning-project strategies of training consultants in professional work require extra attention, since these strategies were found to be less fully elaborated in the learning projects studied. Is this because training consultants are not used to operating within an externally oriented learning group? Maybe their strategies at present just do not converge with those of the more powerful actors, the professional employees. From our cases emerged a similar lack of elaboration in connection with the learning-project strategies of training consultants in entrepreneurial work. Even though the situation is less pressing with respect to machine-bureaucratic and adhocratic group work, the actual and possible learning-project strategies of training consultants make for another area of research to be pursued (Poell & Chivers, 1998).

A third possible field of study lies in the relationship between learning projects, on the one hand, and the existing learning and labor network of an organization, on the other hand. How do they influence each other? This thesis has focused on the relationships between learning and work *within* learning projects. Another interesting option for study is how actors in learning projects make use of the possibilities offered by the existing learning and labor networks, what they add to those networks, and to what changes in the labor and learning networks this leads. For instance, a learning project in professional work will probably be characterized mostly by activities taking place within the present professional labor network and external learning network. If actors choose to engage in learning-project activities that are normally associated with a machine-bureaucratic labor network and a vertical learning network, does this result in the networks changing along

the vertical dimension? Or do such learning projects simply not work? Or do they work, but not in the 'desired' direction? These questions are highly relevant for the field of organizational change and deserve to be investigated in the near future

When framed in 'learning' terms, this specific area of research may be rephrased as the possibilities that the concept of learning projects offers for 'single-loop' or 'double-loop' learning efforts (Argyris & Schon, 1978, Argyris, 1982) Poell, Tijmenssen, & Van der Krogt (1997) concluded that in order for learning projects to enable double loop learning they should be characterized not only by joint learning and an awareness of learning, but also by multi-faceted learning and learning linked to work improvement. These elements can be viewed as necessary preconditions, but are they sufficient for learning-project participants to accomplish double-loop learning? Some cases in the present studies suggest this to be the case, but it remains to be clarified how 'double-loop learning projects' can be systematically encouraged. This would make a well suited research topic to supplement our social-organizational learning perspective with a more psychological perspective, as mentioned above, because the topic focuses on the relationship between social changes in organizations and mental models in people.

Finally, an area of research still open for study lies in the effectiveness of various learning-project types and the way in which effectiveness can be established. Chapters 3 and 4 included some reference to this question. It was concluded that there is no one most effective way to organize learning projects. Actors can deem different learning projects effective, that is, relevant for work improvement and for competence development. It seems quite important to take into account which actor is evaluating the effectiveness of a learning project. In an analysis of data from the 16 learning-project cases described in Chapter 6, Poell (1997) concluded that the effectiveness of work-related learning projects is judged differently by employees, managers, and training consultants. Effectiveness was established in terms of the relevance of each learning project for employee development and for work improvement, as judged by each actor. Some learning projects were found to be more effective than others. Comparing three learning-project types, however, not one type turned out to be more effective than the others. Similarly, learning projects were not found to be more effective in either one of three work types in which they were conducted. Finally, learning projects fitting closely with work did not emerge as more effective than learning projects differing strongly from the work type in which they were carried out. It was found, however, that actors evaluate learning projects in which they are dominant organizers as more effective than learning projects not characterized mainly by their own strategy. It was concluded, therefore, that evaluation outcomes on learning-project effectiveness depend largely on the actor charged with the evaluation. An action research approach seems well suited to systematically incorporate this phenomenon as a relevant topic for further investigation.

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Samenvatting (Summary in Dutch)

Dit proefschrift behandelt twee vragen die spelen op het snijvlak van de vakgebieden organisatie-ontwikkeling, leren van volwassenen, bedrijfsopleidingen en human resources development. De eerste vraag luidt: **Hoe is de relatie tussen leren en werk?** Ten tweede: **Hoe wordt leren in samenhang met werk georganiseerd?** In dit proefschrift wordt het begrip 'leerproject' naar voren geschoven om deze vragen te beantwoorden.

De kern van het proefschrift (de hoofdstukken 2 tot en met 6) bestaat uit vijf artikelen, die in principe op zichzelf staan en als zodanig kunnen worden gelezen. Elk artikel gaat in op een deelaspect van de twee hoofdvragen. Een inleidend en een afsluitend hoofdstuk zijn toegevoegd om de samenhang in de vijf artikelen te verduidelijken. Hoofdstuk 1 schetst het theoretisch en maatschappelijk kader waarbinnen de artikelen te plaatsen zijn. Hoofdstuk 7 bevat een discussie over de conclusies die op grond van de studie kunnen worden getrokken en behandelt implicaties voor verder onderzoek.¹⁰

Hoofdstuk 1 gaat allereerst in op een drietal ontwikkelingen binnen en rondom arbeidsorganisaties die de relevantie van onderzoek naar leren in relatie tot werk aangeven. *Ten eerste* wordt 'leren' steeds belangrijker geacht voor het overleven van organisaties in een constant turbulente omgeving. Van mensen in organisaties wordt tegenwoordig niet alleen verwacht dat zij zich voortdurend blijven ontwikkelen, maar tevens dat zij door het verspreiden van hun expertise 'de organisatie' in staat stellen te leren (Senge, 1990; Simons, 1990; Dixon, 1994; Nonaka & Takeuchi, 1995; Ayas, 1996b). *Ten tweede* zijn er ontwikkelingen binnen arbeidsorganisaties die leren noodzakelijk maken. Organisatiestructuren worden platter waardoor medewerkers in teams meer eigen verantwoordelijkheid krijgen in het organiseren van hun werk - en hun leren (Mai, 1993; Bouwen & Fry, 1996; Hoogerwerf, 1998). Moderne werknemers moeten vakoverstijgende kwalificaties (bv. zelfstandig kunnen plannen) bezitten die voorheen minder belangrijk werden geacht voor hen (Hickox, 1995; Hake, 1995; Van Zolingen, 1995; Dirkx, 1996; Davis & Miller, 1996; Finger, Jansen, & Wildemeersch, 1998). Een *derde ontwikkeling* betreft het groeiende besef dat mensen op veel verschillende manieren kunnen leren in relatie tot hun werk, wat tot uiting komt in nieuwe leergerichte methoden en praktijken. Enkele voorbeelden: leren op de werkplek (Jacobs & Jones, 1995; Glaudé, 1997), action learning (Revans, 1980; Boutinet, 1986; Boutinet & Jobert, 1987; Watkins & Marsick, 1993; Gregory, 1994; McAdam, 1995; Raelin, 1994, 1997; Mumford, 1997), coaching en mentorschap (Locke & Latham, 1990; Brown, Evans, Blackman, & Germon, 1994,

¹⁰ De hier gekozen indeling van het proefschrift brengt enige redundantie met zich mee, die vooral tot uiting komt in de theoretische inleidingen van de vijf oorspronkelijke artikelen. Gezien de tamelijk uitvoerige wijze waarop het kader van de leernetwerktheorie in hoofdstuk 1 wordt gepresenteerd, kan de lezer van het gehele proefschrift ervoor kiezen de korte behandeling van deze theorie in de hoofdstukken 2 tot en met 6 over te slaan. Lezers die een hoofdstuk als op zichzelf staand artikel bestuderen kunnen in hoofdstuk 1 eventueel een uitgebreidere verhandeling vinden over de plaats van leerprojecten in de leernetwerktheorie.

Galbraith & Cohen, 1995), supervisie en intercollegiaal consult (Driehuis, 1997), socialisatie binnen gemeenschappen van praktijkbeoefenaren (Lave & Wenger, 1991), taakroulatie, -verbreding en -verrijking (Hitchcock, 1994; Cheraskin & Campion, 1996), leergerichte werkomgevingen (Schneider & Stötzel, 1993; Verdonck, 1993; Engeström, Virkkunen, Helle, Pihlaja, & Poikela, 1996), multimediale leercentra (Biemans & Simons, 1992) en moderne communicatietechnologie bedoeld om het leren te ondersteunen (Wijnhoven, 1995; Roth & Niemi, 1996). Formele training blijft een belangrijke manier om leren te organiseren, maar zoals uit de opsomming blijkt zijn er vele alternatieven voorhanden.

Er valt evenwel het nodige af te dingen op de geschetste ontwikkelingen en op de manier waarop deze in veel literatuur worden belicht; derhalve vier kanttekeningen. *Ten eerste* brengt de toenemende nadruk op leren het risico met zich mee van een tweedeling tussen enerzijds een 'leer-elite' die veel mogelijkheden heeft tot leren, en anderzijds een grote groep 'tweederangs-werknemers' die weinig kans heeft om zich verder te ontwikkelen. Niet iedereen kan of wil voortdurend leren en veranderen. *Ten tweede* wordt leren vaak eenzijdig als functioneel voor werk voorgesteld: mensen moeten zich door te leren maar aanpassen aan veranderingen in het werk en de organisatie. Te vaak wordt vergeten dat werk en organisatie ook kunnen worden aangepast aan de mensen. *Ten derde* hebben mensen in de realiteit meestal eigen ideeën over de inrichting van hun werk en hun leren, die niet overeen hoeven te komen met de opvattingen van 'de organisatie' daarover. Leren en opleiden moet daarom niet alleen worden gezien als een instrument in handen van het management, maar net zo goed als een middel voor medewerkers om zichzelf en hun werk in een gewenste richting te ontwikkelen. *Ten slotte* lijken alle organisaties impliciet als een machine-bureaucratie te worden beschouwd, die onder invloed van marktontwikkelingen tot een platte organisatie moet worden omgevormd. Daarin moeten medewerkers als team meer verantwoordelijkheid dragen voor hun werk en hun leren. Deels lijkt deze ontwikkeling eerder op retoriek dan op realiteit te berusten. Belangrijker is echter dat door het eenzijdige beeld zicht wordt ontnomen op andere ontwikkelingsrichtingen en alternatieve vormen om werk en leren te organiseren. Ook kan men zich afvragen of de eenzijdige nadruk op teamverantwoordelijkheid wel in het belang is van de medewerkers, die wellicht meer gebaat zijn bij het uitbouwen van hun vakinhoudelijke professionaliteit.

Vervolgens wordt in paragraaf 1.3 nagegaan in hoeverre de leernetwerktheorie (LNT) (Van der Krogt, 1995) als theoretisch kader tegemoet komt aan bovenstaande kritiekpunten. De LNT beschouwt leersystemen in organisaties als netwerken van *actoren* die leeractiviteiten ondernemen. Belangrijke actoren in het leersysteem zijn o.a. lerende medewerkers, leidinggevendenden, opleiders en beroepsverenigingen. Elke actor handelt vanuit zijn eigen belangen en theorieën over wat en hoe er moet worden geleerd. Aangezien actoren hiern vaak uiteenlopende visies en belangen hebben, komt het feitelijke leersysteem tot stand door onderhandeling en andere interactievormen als samenwerking, tegenwerking, overleg, coalitievorming, et cetera. Actoren geven op die wijze in interactie vorm aan drie *leerprocessen*: leerbeleidsontwikkeling, leerprogramma-ontwikkeling en kwalificering (uitvoering van leerprogramma's). Machtige actoren kunnen

een zwaarder stempel op de uitkomst van deze processen drukken dan minder invloedrijke actoren. Na verloop van tijd gaan bepaalde interactiepatronen een vaster karakter aannemen, waardoor bepaalde *leerstructuren* gaan ontstaan: te onderscheiden zijn een inhoudelijke structuur van het leernetwerk (aard en opbouw van de leerprogramma's), een organisatorische structuur (taken en verantwoordelijkheden van de verschillende actoren) en een leerklimaat (neerslag van de heersende waarden en normen m.b.t. leren). De bestaande leerstructuren, ten slotte, beïnvloeden weer het handelen van de actoren doordat ze bepaalde mogelijkheden en beperkingen in zich dragen. Enerzijds oefenen actoren dus actief invloed uit op de gang van zaken in het leernetwerk, anderzijds stuurt het hun handelen tot op zekere hoogte evenzeer (zie Figuur 1.1 op pagina 8).

De LNT onderscheidt vier ideaaltypische leernetwerken in arbeidsorganisaties (zie Tabel 1.1 op pagina 11). Zeer beknopt getypeerd: in een *liberaal* leernetwerk zijn individuele medewerkers zelf verantwoordelijk voor het samenstellen en uitvoeren van hun eigen leerprogramma's. In een *verticaal* leernetwerk vertalen opleiders het door managers ontwikkelde leerbeleid in leerprogramma's voor de medewerkers, welke meestal in de vorm van trainingen worden uitgevoerd. In een *horizontaal* leernetwerk zijn de actoren als groep bezig met het aanpakken van complexe problemen in het werk of de organisatie, gaandeweg experimenterend met oplossingen en rekening houdend met voortschrijdend inzicht. In een *extern* leernetwerk maken medewerkers zich nieuwe inzichten en werkmethoden eigen die zijn ontwikkeld in hun beroepsverenigingen buiten de eigen organisatie. Vervolgens passen zij hun werk daaraan aan. Het leernetwerk van elke bestaande organisatie lijkt in meer of mindere mate op deze ideaaltypische leernetwerken.

Leernetwerken zijn redelijk stabiel, maar veranderen van aard als actoren anders gaan handelen. Deze veranderingen kunnen verlopen langs drie lijnen, die tezamen een driedimensionale ruimte definiëren (zie Figuur 1.2 op pagina 13): de liberaal-verticale dimensie, de liberaal-horizontale dimensie, en de liberaal-externe dimensie.

Ten slotte veronderstelt de LNT een samenhang tussen het soort leernetwerk van een organisatie en de manier waarop het werk er wordt georganiseerd (arbeidsnetwerken, zie Tabel 1.2 op pagina 15). Bij (ondernemende) *vakarbeid*, niet erg complex maar tamelijk breed van aard, wordt een liberaal leernetwerk verwacht. Bij *machine-bureaucratisch werk*, met eenvoudige en beperkte taken, past een verticaal leernetwerk. (Adhocratisch) *groepswork*, gekenmerkt door complexe en brede werkinhouden, hangt samen met een horizontaal leernetwerk. En *professionele arbeid*, met sterk gespecialiseerde en zeer complexe taken, is gerelateerd aan een extern leernetwerk. Omdat zowel leernetwerken als arbeidsnetwerken een eigen dynamiek kennen (deels worden zij door andere actoren georganiseerd), zal de relatie tussen beide nooit volledig 'passen', maar een zekere samenhang mag worden verwacht. Juist in de spanning tussen leren en werk schuilen aangrijpingspunten voor verandering en verbetering.

De LNT vormt een bruikbaar theoretisch kader voor het bestuderen van vraagstukken rondom het organiseren van leren en werk, omdat lerende medewerkers en hun belangen en theorieën erin centraal staan, omdat er ruimte is voor een veelzijdigheid aan alternatieven om leren te organiseren, en omdat leren niet alleen maar wordt gezien als aanpassing

van mensen aan (ontwikkelingen in) het werk; werkaanpassing is ook een mogelijkheid. Daarmee komt de LNT tegemoet aan eerder vermelde kritiek op bestaande literatuur

In paragraaf 1.4 wordt het leernetwerkperspectief toegepast op het begrip 'leerproject'. Een *leerproject* bestaat uit een groep organisatieleden die een samenhangend geheel van leeractiviteiten organiseren rondom een arbeidsrelevant thema of probleem, met de specifieke intentie om te leren en tegelijkertijd het werk te verbeteren. De leeractiviteiten kunnen zowel op als buiten de werkplek plaatsvinden, zelfgestuurd zijn of door een opleider voorbereid, handelingsgericht zijn of op reflectie gebaseerd, meer voorgestructureerd of juist met een open einde. Hoewel leerprojecten op alle niveaus mogelijk zijn, richt dit proefschrift zich vooral op leerprojecten van medewerkers op de werkvloer, dus van uitvoerende lerenden. Uiteraard zijn daarbij eveneens vaak leidinggevendenden, opleiders en andere actoren betrokken, maar de uitvoerenden staan centraal.

Het *projectbegrip* is uitvoerig gedocumenteerd in de organisatiekundige literatuur, meestal echter niet in relatie tot leren, maar tot projectmatig werken en het invoeren van projectorganisaties (zie bv. Bouwen, De Visch, & Steyaert, 1992; Nevison, 1994; Ayas, 1996a, Peters & Homer, 1996, Van Aken, 1996; Pelleggnelli, 1997; Kessels, Smit, & Van Aken, 1997). In de onderwijskundige literatuur wordt het projectbegrip wel degelijk in verband gebracht met leren, maar dan als didactische methode gericht op schoolleerlingen (Sharan & Sharan, 1992, Wolk, 1994; Bonnet, 1994, Wade, Abrami, Poulsen, & Chambers, 1995; Kolmos, 1996; Odé & Tiesinga, 1997). Waar het gaat over projectonderwijs aan volwassenen, maakt dat meestal deel uit van een hogere beroepsopleiding die organisatieleden volgen (zie bv. Lynn & Taylor, 1993; Dunne, 1993; Gross, 1994; Peterson & Myer, 1995; Gasen & Preece, 1996, Kolenko, Porter, Wheatley, & Colby, 1996; Dowling & Coppens, 1996; Hubbe, Cearlock, & Etyre-Zacher, 1996). De weinige verwijzingen naar leerprojecten zoals ze in dit proefschrift worden omschreven doelen meestal op ontwikkelingsprojecten voor managers i.p.v. uitvoerenden (O'Neil & Marsick, 1994; Raelin, 1994, Smith & Dodds, 1997) of richten zich eenzijdig op sterk voorgestructureerde i.t.t. meer open leerprojecten (Frey, 1993; Freimuth & Hoets, 1996; Oberscheider, 1996).

In dit proefschrift wordt een leerproject gezien als een klein en tijdelijk leernetwerk op het niveau van een groep organisatieleden. Dat betekent dat actoren op basis van hun actietheorieën rondom een arbeidsrelevant thema leeractiviteiten ondernemen in het kader van leerbeleidsvorming, leerprogrammering en kwalificering, na verloop van tijd resulterend in een bepaalde inhoudelijke en organisatiestructuur en een leerklimaat (zie Figuur 1.6 op pagina 21). De strategieën van de verschillende actoren en de manier waarop hun interacties verlopen bepalen hoe het leerproject vorm en inhoud krijgt. Leerprojecten moeten aansluiten bij de aard van het werk en de ontwikkelingen daarin, tegelijkertijd echter moeten ze passen bij de opvattingen en belangen van de actoren en de ontwikkelingen daarin. De *probleemstelling* die in het proefschrift centraal staat is hoe actoren in leerprojecten kunnen omgaan met deze spanning tussen arbeidsrelevantie en humaniteit ('ontplooingsrelevantie'). De eerste vraag die in dit kader wordt onderzocht is: **welke strategieën gebruiken actoren feitelijk in leerprojecten?** Vanwege de in de LNT

verwachte relatie tussen leernetwerk en arbeidsnetwerk luidt de tweede vraag **hoe is de samenhang tussen leren en werk in leerprojecten?** Het proefschrift stelt zich tot doel om de verschillende manieren te laten zien waarop leerprojecten in diverse werksoorten kunnen worden georganiseerd. Het dient actoren referentiekaders te bieden bij het vormgeven van hun eigen leerprojecten, rekening houdend met de werkcontext waarin zij opereren.

Hoofdstuk 2 verkent het begrip leerproject aan de hand van literatuur. Vertrokken wordt van het idee dat informele en incidentele leeractiviteiten krachtige maar moeilijk grijpbare manieren zijn om leren te organiseren. Er wordt nagegaan of leerprojecten een geschikt middel zijn om meer systematiek in leren aan te brengen zonder toevlucht te nemen tot complete formalisering van leersituaties. Verschillende benaderingen van leerprojecten worden hiertoe besproken, zoals individuele leerprojecten van algemene aard (Tough, 1978, Penland, 1979, Sexton, 1990), groepsleerprojecten volgens Candy (1991), leerprojecten als organisatie-onderzoek (Argyris & Schon, 1978), action learning (Revans, 1980, Marsick & Watkins, 1990, McGill & Beaty, 1992), en trainingsprojecten aangevuld met transferbevorderende maatregelen (Robinson & Robinson, 1989, Broad & Newstrom, 1992).

Vanuit het kader van de leernetwerktheorie bezien komt de conclusie naar voren dat de genoemde benaderingen nogal eenzijdig de nadruk leggen op leren als aanpassing van mensen aan ontwikkelingen in het werk. De notie dat het werk eveneens kan worden aangepast aan de competenties van de medewerkers, of dat leren en werkverbetering tegelijkertijd in onderlinge samenhang zouden kunnen worden aangepakt, komt in de literatuur zelden terug. Wat dit betreft biedt een netwerkbenadering van leerprojecten actoren nieuwe mogelijkheden om competentie-ontwikkeling en werkontwikkeling met elkaar te combineren, zoals enig empirisch onderzoek laat zien (Van der Krogt & Warmerdam, 1993, 1997, Poell, Van Moorsel, & Van der Krogt, 1997).

Hoofdstuk 3 beschrijft praktijkervaringen met een methode van projectmatig leren in organisaties (PROLO), gericht op het met elkaar verbinden van leren en werk. De methode omvat drie activiteiten die al of niet gefaseerd worden doorlopen. Ten eerste wordt een diagnose gemaakt van het bestaande arbeids- en leernetwerk, van de ontwikkelingen daarin, en van de opvattingen van de actoren over leren in relatie tot het werk. De tweede activiteit bestaat uit het terugkoppelen van de diagnoseresultaten naar de betrokkenen in de organisatie. Uit een discussie over de interpretatie van de diagnoseresultaten volgt een keuze voor een of meerdere leerthema's waarbij een of meerdere leergroepen worden samengesteld. De derde activiteit bestaat uit het organiseren van een leerproject door deze groep rondom het gekozen thema. De drie activiteiten kunnen door een externe adviseur worden uitgevoerd, maar het is evengoed mogelijk dat interne medewerkers (of de leergroep zelf) ze ondernemen.

De PROLO-methode wordt theoretisch geschaagd door de leernetwerktheorie en probeert op meerdere manieren verbindingen tussen leren en werk te leggen. Ten eerste

gebeurt dat door de keuze van een arbeidsrelevant leerthema, voortvloeiend uit een actuele diagnose. Ten tweede omvat het leerproject zowel formele als informele leeractiviteiten, op en buiten de werkplek, in onderlinge samenhang. Ten derde beoogt het leerproject een combinatie van individuele en collectieve leeractiviteiten te creëren. Ten vierde sluiten de leeractiviteiten zoveel mogelijk aan bij de bestaande werkorganisatie en de leermogelijkheden die het werk al biedt. Ten slotte wordt het leren van medewerkers verbonden met de verbetering van hun werk door middel van ervaringsleren en het oplossen van concreet ervaren werkproblemen.

In vergelijking met andere handelingsgerichte methoden (zie bv. Argyris & Schön, 1978; Revans, 1980; Marsick & Watkins, 1990; McGill & Beaty, 1992; Cunningham, 1993) legt de PROLO-methode meer nadruk op de mogelijkheid van zelfsturing door de deelnemers. Bovendien wordt veel meer rekening gehouden met de inbedding van het leren in een specifieke werkcontext. Ook heeft de PROLO-methode meer aandacht voor het feit dat actoren verschillende strategieën erop nahouden en dat machtsverhoudingen vaak bepalend zijn voor de gang van zaken in een leerproject.

Aan de hand van vier cases in reclasseringsinstellingen wordt de werking van de PROLO-methode empirisch geïllustreerd (zie Tabel 3.2 op pagina 43). Opvallend is dat, hoewel de diagnose- en terugkoppelingsfase in alle cases op dezelfde wijze zijn aangepakt, de resulterende leerprojecten nogal van elkaar verschillen. De verschillen doen zich voor in de opvattingen van de actoren, de leerprocessen en de leerstructuren. In termen van de leernetwerktheorie is één leerproject-case te benoemen als horizontaal-extern, één als extern, één als extern-horizontaal, en één als verticaal. Verder valt op dat de actoren de leerprojecten in alle vier gevallen als effectief benoemen, wat te verklaren is doordat elk leerproject specifiek is afgestemd op de belangen van de deelnemers en de mogelijkheden van de werkorganisatie. Een beperking van deze empirische illustraties is dat zij slechts betrekking hebben op één werksoort, namelijk professionele arbeid. De werking van de PROLO-methodiek in andere werksoorten moet nader worden onderzocht.

Hoofdstuk 4 presenteert empirisch onderzoek naar een viertal leerprojecten, met als doel te laten zien dat er een verscheidenheid aan manieren bestaat om leren in samenhang met het werk te organiseren. Van vier empirische leerprojecten zijn de kenmerken en de effectiviteit bepaald door groepsinterviews te houden met de vijftien deelnemers over het verloop en de uitkomst van hun leerproject. Analoot aan de vier leernetwerken werden vier ideaaltypische leerprojecten onderscheiden om de cases mee te vergelijken: liberale, verticale, horizontale en externe leerprojecten (zie Tabel 4.1 op pagina 53).

De vier leerprojecten werden uitgevoerd door adviseurs in educatieve adviesbureaus, die hun adviesvaardigheden wilden uitbouwen. Alle leerprojecten bestonden voor een deel uit een achtdaagse training, verspreid over een periode van tien maanden, waaraan alle vijftien adviseurs deelnamen. Buiten de gezamenlijke bijeenkomsten vormden zich vier leergroepen van directe collega's, die de voorbereiding en evaluatie van de plenaire sessies ter hand namen. Elke groep nam een concreet adviesproject waarmee de groepsleden bezig waren voor praktijkoefening op in het leerproject. Hiermee trachtten zij

het geleerde in de groepssessies direct in praktijk te brengen. Ieders ervaringen werden gezamenlijk nabesproken tijdens de plenaire sessies. Daarnaast ondernam elke leergroep zijn specifieke activiteiten. Groep A kwam geregeld bijeen om samen literatuur te bespreken en individuele experimenten met nieuwe werkmethoden te evalueren. Aan de hand van praktijkopdrachten probeerden zij hun visie op advisering te verbinden met de theoretische inzichten uit de cursus. Groep B volgde een vergelijkbare opzet, maar met andere accenten. Samen met een van de trainers werkten zij aan een tijdschriftartikel over hun praktijkervaringen. Samen met een klant werd een compleet pilot-project op touw gezet, waarbij twee groepsleden uitvoerders waren en drie andere klankbord voor hun verrichtingen. Groep C kwamen buiten de gezamenlijke sessies maar weinig bij elkaar. Elke individuele deelnemer probeerde voor zichzelf echter de vertaalslag te maken tussen de cursusinhoud en de dagelijkse werkproblemen. Soms kwamen ze bij elkaar om dit aan de hand van literatuur te doen. In de auto op weg van en naar de trainingsbijeenkomsten vond gezamenlijke reflectie op de cursusinhoud en de implicaties voor het eigen werk plaats. Groep D volgde een vergelijkbaar scenario. De deelnemers zagen gezien de werkdruk geen mogelijkheid om extra bijeen te komen. Zij trachtten zoveel mogelijk nieuwe inzichten uit de plenaire sessies te halen en waren op zichzelf aangewezen om de vertaalslag naar hun werk te maken.

Aan de hand van tien beschrijvende categorieën ontleend aan de leernetwerktheorie werden de kenmerken en effectiviteit van de vier leerprojecten bepaald. Op grond hiervan werden de groepen A en B als extern-horizontale leerprojecten benoemd en de groepen C en D als liberaal-verticale leerprojecten (zie Tabel 4.3 op pagina 59). De verschillen in kenmerken hadden betrekking op de theorieën van de actoren over leren, op de leerprocessen en op de leerstructuren. De verschillen in effectiviteit bestonden er met name in dat de groepen A en B duidelijk maakten dat zij nieuwe inzichten hadden opgedaan, die zij succesvol wisten toe te passen in hun werkrepertoire, terwijl de groepen C en D aangaven dat de leeropbrengst beperkt was tot een aantal 'kookboek-recepten', die weinig veranderingen in hun werkwijze met zich meebrachten.

Uit deze studie blijkt dat leerprojecten op verschillende wijze kunnen worden georganiseerd. Tevens wordt getoond dat actoren verschillende strategieën erop nahouden: de deelnemers in de groepen C en D pakten hun leerproject geheel anders aan dan de trainers hen hadden aangeraden. In het geval van groep D kwam dit doordat de deelnemers van hun manager geen extra tijd kregen om buiten de gezamenlijke bijeenkomsten met een kleinere leergroep van directe collega's bijeen te komen. De effectiviteit van een dergelijke aanpak komt onder druk te staan, zo blijkt ten slotte, hoewel de bevindingen uit deze vier cases niet zonder meer kunnen worden gegeneraliseerd.

Hoofdstuk 5 bevat een methodologische verantwoording van het onderzoek naar leerprojecten in organisaties. Terugkijkend op dit onderzoek als geheel zijn er veranderingen opgetreden in de doelstelling, het theoretisch kader en de gebruikte onderzoekstrategie. In het hoofdstuk worden deze veranderingen expliciet gemaakt en gedocumenteerd, waardoor inzicht ontstaat in de effecten van het aanpassen van de onderzoeksopzet aan

nieuwe perspectieven die gedurende het proces op de voorgrond komen. Betoogd wordt dat deze strategie de relevantie van het onderzoek ten goede komt, meer althans dan het van begin tot eind vasthouden aan een eenmaal gekozen onderzoeksopzet. De drie vragen die in het hoofdstuk centraal staan, zijn: 1. Voor wie is het begrip leerproject praktisch relevant? 2. Welk begrip van organiseren is theoretisch relevant voor leerprojecten? 3. Welke strategie is zinvol om leerprojecten te onderzoeken?

In de beginperiode poogde het onderzoek een praktisch bruikbaar instrument voor organisatie-ontwikkeling te ontwerpen. Dat instrument zou met name in handen van trainers en opleiders nuttig dienen te zijn. Zij zouden leerprojecten als hulpmiddel kunnen gebruiken bij het ontwikkelen van de mensen en het werk in hun organisatie. De notie van Mintzberg (1979) dat organisatiestructuren van elkaar verschillen was vertaald naar het veld van opleiding en training, wat het inzicht opleverde dat leerprojecten eveneens op verschillende wijze gestructureerd zouden kunnen worden. Om op basis van dit idee een empirisch gefundeerde typologie van leerprojecten te ontwikkelen zijn, achteraf bezien, in het onderzoek zeven fasen doorlopen (zie Tabel 5.1 op pagina 64).

In de eerste fase ('Oriënteren') vond vooral literatuurstudie plaats rond organisatie-ontwikkeling, projectonderwijs, en (informeel) leren in organisaties. Tevens werd een secundaire analyse uitgevoerd van acht leerprojecten (m.n. in de reclassering). Deze fase stond in het teken van het zoeken naar een geschikt beschrijvingskader voor leerprojecten. Op basis van verschillen in de inhoudelijke structuur, de organisatiestructuur en de mate van voorstructurering van het leren werden voorlopig twee typen onderscheiden: een traditioneel trainingsproject en een geïntegreerd leerproject (zie Figuur 5.1 op pagina 65).

In de tweede fase ('Open beschrijven') werden wederom acht leerprojecten (m.n. in ziekenhuizen) geanalyseerd. In dit stadium werd gebruik gemaakt van de 'grounded theory approach', in een (moeizame) poging tot het zelf ontwikkelen van een geschikt beschrijvingskader vanuit de verzamelde interviewgegevens over leerprojecten.

In de derde fase ('Praktijk ontwikkelen') werd een ontwikkelingsproject uitgevoerd samen met een groep organisatie-adviseurs. Met behulp van de methodiek van projectmatig leren (PROLO) bekwaamden zij zich in adviseursvaardigheden, deels door theorie-overdracht, deels door in hun eigen praktijk te experimenteren en daarop gezamenlijk te reflecteren. In de analyse van de vier hierbij ontstane leerprojecten werd voor het eerst het leernetwerk-kader gebruikt. Het leerproject werd derhalve beschreven aan de hand van de theorieën van de actoren, de onderlinge interactieprocessen en de daaruit resulterende projectstructuren. De resulterende typologie was echter nog steeds gebaseerd op de structuur van leerprojecten (zie hoofdstuk 4).

In de vierde fase ('Modelleren') vond allereerst een aanscherping van de onderzoeksvraag plaats: 'Hoe gaan de verschillende actoren in leerprojecten om met de spanning tussen humaniteit en arbeidsrelevantie?' Als belangrijkste actoren werden benoemd: uitvoerende organisatieleden, leidinggevend en opleiders/begeleiders. Vanuit de leernetwerktheorie werden vier ideaaltypische modellen van leerprojecten afgeleid, die de verschillende activiteitenpatronen van actoren in de interactieprocessen weergeven. In elk van die vier modellen zorgen actoren ervoor dat leren en werkverbetering samen gestalte

krijgen door vertegenwoordigend overleg, door voortdurende wederzijdse aanpassing, door participatie in beroepsmatige innovatie, of door individuele arrangementen (zie Tabel 5 2 op pagina's 68 en 69)

In de vijfde fase ('Iteratief toetsen I') werden vier leerprojecten (in een ziekenhuis en een school) geanalyseerd aan de hand van interviewmateriaal. Hiertoe werden de handelingspatronen van de actoren vergeleken met de beschrijvingen in de vier ideaaltypische modellen en aldus benoemd. Na deze exercitie werd het gecategoriseerde interviewmateriaal vervolgens gebruikt om de vier modellen te operationaliseren (om de beschreven activiteiten concreter te benoemen).

In de zesde fase ('Iteratief toetsen II') vond een her-analyse plaats van de acht leerprojecten uit fase 2. Dezelfde procedure werd gehanteerd als in de vorige fase, met dien verstande dat de vier ideaaltypische modellen ondertussen enigszins geoperationaliseerd waren. Opnieuw werd na categorisering het interviewmateriaal gebruikt om de vier modellen verder te operationaliseren.

De zevende en laatste fase ('Iteratief toetsen III') herhaalde de procedure van de vorige twee fasen. Er werd een analyse gemaakt van vier leerprojecten (in een fabriek en een adviesbureau) en voor de laatste maal werden de vier modellen daarna concreter gemaakt. Uiteindelijk bestond het resultaat uit vier geoperationaliseerde modellen, die weergeven welke handelingspatronen uitvoerende organisatieleden, leidinggevend en opleiders/begeleiders in leerprojecten gebruiken: directe vertegenwoordiging, voortdurende aanpassing, professionele innovatie, en individuele onderhandeling (zie Tabel 5 3 op pagina's 72 en 73). De modellen kunnen worden gebruikt om lopende of afgeronde leerprojecten te onderzoeken en te benoemen, maar ook om actoren te laten zien welke verschillende mogelijkheden zij hebben in het organiseren van leerprojecten.

In de hierboven beschreven onderzoeksbenadering werden praktische experimenten en empirische dataverzameling voortdurend afgewisseld met theoretische exercities als het zoeken naar en vormgeven van beschrijvingsmodellen. De kracht van deze aanpak: school met name in het aanpassingsvermogen dat hij met zich meebracht. Voortdurend werd op basis van voortschrijdend inzicht de werkwijze bijgesteld. In de laatste drie fasen werd desalniettemin ervoor gezorgd dat de vergelijkbaarheid over de betreffende cases heen behouden bleef.

De praktische relevantie is in de loop van het onderzoek verschoven van het ontwerpen van een organisatie-ontwikkelingsinstrument voor opleiders naar het ontwikkelen van handelingskaders en leerprojectstrategieën voor lerenden, leidinggevend en opleiders. Deze actoren moesten in staat worden gesteld om de eigen handelingstheorieën te vergelijken met verschillende leerprojectmodellen en zo de eigen leerprojecten beter vorm te geven.

Het theoretisch kader dat aan het onderzoek ten grondslag lag is gaandeweg verschoven van een contingentie- naar een leernetwerkbenadering van organiseren. Waar aanvankelijk leerprojectstructuren werden gerelateerd aan arbeidsstructuren, kwam de nadruk later te liggen op de strategieën van actoren om leren en werk in onderlinge samenhang te organiseren. Leerprojecten werden niet langer beschouwd als instrument in

handen van het management (of van opleiders), maar eerder als een 'arena' waarin alle actoren op hun eigen wijze proberen om te gaan met de spanning tussen humaniteit en arbeidsrelevantie van het leren.

De gebruikte onderzoekstrategie is in het algemeen te beschrijven als een voortdurende afwisseling van praktische experimenten en empirische dataverzameling enerzijds met theoretische exercities als het ontwikkelen van geschikte beschrijvingsmodellen anderzijds. In de eerste twee fasen lag de nadruk op het open beschrijven van empirische leerprojecten, terwijl met name in de laatste drie fasen het vanuit coherente theoretische beschrijvingscategorieën operationaliseren van leerprojectmodellen voorop stond, uiteraard op basis van uitgebreid empirisch materiaal. Het iteratieve zoekproces en de afwisseling van praktijk en theorie hebben geleid tot voortdurende bijstellingen in de onderzoeksopzet, waarmee een zo groot mogelijke relevantie van het onderzoek werd beoogd. Het resultaat is een theoretisch gefundeerde en empirisch gevalideerde typologie om verschillende leerprojecten mee te kunnen beschrijven, die tevens praktisch bruikbaar is voor de verschillende actoren. De toegepaste onderzoekstrategie is bruikbaar gebleken om dit resultaat te bereiken.

Hoofdstuk 6 behandelt de samenhang tussen strategieën van actoren in leerprojecten en de organisatie van het werk. Nagegaan werd welke leerproject-typen op basis van de gebruikte actorstrategieën kunnen worden onderscheiden, of er verschillen zijn tussen de strategieën van medewerkers, leidinggevend en opleiders/begeleiders, en of leerproject-strategieën samenhangen met de arbeidsverhoudingen tussen de actoren. De studie is gebaseerd op een vergelijking van zestien leerproject-cases in zes organisaties (zie Tabel 6.2 op pagina 83), waarvoor met in totaal 96 deelnemers semi-gestructureerde interviews zijn gehouden. Voor het beschrijven van de gebruikte actorstrategieën werd gebruik gemaakt van vergelijking met de ideaaltypische leerprojectmodellen beschreven in hoofdstuk 5 (zie Tabel 5.3 op pagina's 72 en 73). Op basis van deze kwalitatieve analyse (zie Tabel 6.3 op pagina 84) werd een kwantitatieve analyse uitgevoerd met als doelen om de cases te situeren in de drie-dimensionale ruimte van het leernetwerkkader en een clustering in typen tot stand te brengen.

Drie empirische leerproject-typen konden worden onderscheiden op basis van de door actoren gebruikte strategieën: 'Training Aangevuld', 'Gestuurde Reflectie' en 'Reflectieve Innovatie' (zie Figuur 6.3 op pagina 85). In de leerproject-strategie 'Training Aangevuld' zijn managers en opleiders dominant in het ontwerpen van een opleidingsprogramma aangevuld met transferbevorderende maatregelen in het werk, die door de lerenden worden uitgevoerd. De opleidingsactiviteiten worden voorgeprogrammeerd door de opleiders en de overige leeractiviteiten overgelaten aan individuele lerenden. In de leerproject-strategie 'Gestuurde Reflectie' zijn de lerenden als groep onder strakke supervisie van leidinggevend en begeleiders gestructureerd bezig met probleemoplossen, waarbij oplossingen volgens een gezamenlijk opgesteld plan worden uitprobeerd. In de leerproject-strategie 'Reflectieve Innovatie' laat de leergroep zich inspireren door innovatieve werkmethoden ontwikkeld binnen de beroepsvereniging,

waarmee zoveel mogelijk in het dagelijks werk wordt geëxperimenteerd. De leergroep reflecteert voortdurend op de ervaringen die zijn opgedaan en stelt op grond daarvan de werkwijze bij. Van alle drie leerproject-typen wordt in paragraaf 6.5.1 een 'typische' voorbeeld-case beschreven.

Lerenden, leidinggevenden en opleiders bleken andere strategieën te gebruiken (zie Tabel 6.5 op pagina 89), hoewel ook leerprojecten werden aangetroffen waar de strategieën tussen de actoren niet verschilden. In leerprojecten waar duidelijke verschillen optraden, benadrukten lerenden over het algemeen de strategieën van professionele innovatie of individuele onderhandeling, terwijl leidinggevenden en opleiders eerder de strategie van directe vertegenwoordiging gebruikten.

Drie werk-typen konden worden onderscheiden op basis van de arbeidsverhoudingen tussen de actoren: machine-bureaucratisch werk, (ondernemende) vakarbeid en professionele arbeid (zie Figuur 6.4 op pagina 90). Uit een kruistabel van werksoort met leerproject-type (zie Tabel 6.6 op pagina 91) bleek dat wel van een zekere samenhang sprake is, maar zeker niet van een uitgesproken één-op-één relatie. In machine-bureaucratisch werk kwam 'Reflectieve Innovatie' niet voor, terwijl 'Training Aangevuld' niet werd aangetroffen in professionele arbeid. Voor het overige kwamen alle drie leerproject-typen in alle drie werksoorten voor.

Kortom: leerprojecten verschillen in de strategieën die actoren gebruiken, en die hangen tot op zekere hoogte samen met de arbeidsverhoudingen tussen de actoren. De invloed van de arbeidsverhoudingen op de leerproject-strategie komt het duidelijkst naar voren wanneer verschillende actoren verschillende strategieën gebruiken (wat niet in alle leerprojecten gebeurt). In machine-bureaucratisch werk zijn leidinggevenden dan meestal machtig genoeg om de door hun geprefereerde strategie van directe vertegenwoordiging op te leggen aan de lerenden, terwijl in professionele arbeid lerenden invloedrijk genoeg zijn om hun strategie van professionele innovatie te benadrukken. Verder bleken opleiders geen duidelijk stempel op leerprojecten te kunnen drukken, tenzij zij zich conformeerden aan de strategie van het management.

Hoofdstuk 7 bespreekt de conclusies en implicaties van het onderzoek als geheel. Deze zijn gebaseerd op bestudering van in totaal 24 leerprojecten in 14 organisaties, waartoe met 135 respondenten interviews zijn gehouden (zie Tabel 7.1 op pagina 93).

De ene vraag die in het proefschrift werd onderzocht is: **welke strategieën gebruiken actoren feitelijk in leerprojecten?**

Een eerste conclusie rondom dit thema luidt dat uitvoerende medewerkers duidelijk naar voren zijn gekomen als (mede-)organisatoren van leerprojecten, niet alleen in de uitvoering maar evenzeer wat de programmering en beleidsvorming aangaat. De activiteiten van lerenden kunnen niet slechts worden beschouwd als reacties op de acties van leidinggevenden en opleiders. Uitvoerenden hebben een scala van mogelijkheden om leerprojecten te organiseren die passen bij hun eigen opvattingen en belangen, ook al moeten zij daartoe onderhandelen met leidinggevenden en opleiders.

Ten tweede gebruiken verschillende actoren verschillende strategieën in leerprojecten, hoewel in bepaalde leerprojecten actoren dezelfde strategie aanhouden. Wanneer dat laatste niet het geval is, dan blijken leidinggevend en opleiders meer een verticale en lerenden meer een externe oriëntatie te hebben. Uitvoerende lerenden willen liever competenties verwerven die bruikbaar zijn binnen hun beroepsgroep dan kwalificaties die alleen binnen de eigen organisatie nuttig zijn. Deze externe oriëntatie wordt in de opleidingsliteratuur helaas maar weinig aangetroffen.

Ten derde zijn de machtsverhoudingen tussen de actoren bepalend voor de strategie die in een leerproject domineert (wanneer actoren verschillende strategieën gebruiken). De machtsverhoudingen met betrekking tot het leren liggen echter vaak anders dan die rond het organiseren van het werk. Over het algemeen zijn uitvoerenden machtiger als het gaat om het organiseren van leren, en leidinggevend en opleiders bij het organiseren van werk. Net als de externe dimensie worden machtsaspecten in de opleidingsliteratuur ten onrechte vaak genegeerd (uitzonderingen daargelaten, zie bv. Pettigrew, Ferlie, & McKee, 1992; Cervero & Wilson, 1996; Reynolds, 1997; Dovey, 1997).

Ten vierde kunnen actoren kiezen uit een scala van strategieën om leerprojecten te organiseren. Vier ideaaltypische modellen zijn hiertoe geoperationaliseerd en beschreven in hoofdstuk 5: directe vertegenwoordiging, voortdurende aanpassing, professionele innovatie, en individuele onderhandeling (zie Tabel 5.3 op pagina's 72 en 73). Drie empirische configuraties werden aangetroffen en beschreven in hoofdstuk 6: 'Training Aangevuld', 'Gestuurde Reflectie' en 'Reflectieve Innovatie' (zie Figuur 6.3 op pagina 85). Verder is in hoofdstuk 3 een methode van projectmatig leren gepresenteerd die actoren kunnen gebruiken om systematisch leerprojecten op te zetten die passen bij het werk en bij hun eigen opvattingen en belangen.

Een laatste conclusie rond de vraag naar het organiseren van leerprojecten betreft de rol die opleiders daarin spelen. Opleiders komen, geheel in lijn met veel opleidingskundige literatuur, naar voren als trouwe dienaars van het management. In leerprojecten betekent dat echter dat hun rol nogal beperkt is, hoewel de traditionele inbreng met name in meer verticaal georiënteerde leerprojecten ('Training Aangevuld') nog zeer herkenbaar is. Als opleiders hun professionele invloed in een breder scala aan leerprojecten willen doen gelden, dan wordt het tijd om daarbij horende theorieën, strategieën en methodieken te gaan ontwikkelen. Daarmee is in dit onderzoek een bescheiden begin gemaakt, maar vergt nog het nodige werk. Het lijkt raadzaam om de heersende sterke focus op didactische vraagstukken aan te vullen met uitgebreidere aandacht voor actor-strategische en inhoudelijke vraagstukken rond het organiseren van leerprojecten. Met andere woorden: naast het HOE is ook de vraag WAT er moet worden geleerd, in relatie tot de werkcontext, het waard te worden gesteld.

De andere vraag die in het proefschrift centraal stond, luidt: **hoe is de samenhang tussen leren en werk in leerprojecten?**

Een eerste conclusie in dit opzicht is dat deelnemers in een leerproject de ontwikkeling van hun competenties kunnen verbinden met de verbetering van hun werk. De verbinding zit in het gebruiken en uitbouwen van dagelijkse werksituaties tot thematisch samen-

hangende leeractiviteiten in het kader van een leerproject. Door deze leeractiviteiten verbreden mensen hun handelingsrepertoire in het werk en daarmee leren zij.

Ten tweede zijn er verschillende strategieën voor actoren om in leerprojecten competentie-ontwikkeling te verbinden met werkverbetering. Deze zijn hierboven reeds aangevoerd. Belangrijk is in ieder geval de vaststelling dat medewerkers zich niet altijd hoeven aan te passen aan ontwikkelingen in het werk, maar dat het werk ook zo kan worden vormgegeven dat het past bij de kwaliteiten van de medewerkers, of dat beiden tegelijk kunnen worden aangepakt om beter op elkaar aan te sluiten.

Ten slotte is er een zekere relatie vastgesteld tussen werksoort en leerproject-type, maar zoals verwacht geen eenduidige. In sommige werksoorten liggen bepaalde leerproject-typen duidelijk meer voor de hand dan andere. Enkele leerproject-typen lijken echter niet samen te gaan met bepaalde werksoorten (althans in onze qua omvang beperkte steekproef). Voor actoren betekent dit dat er keuze is uit vele strategieën om leerprojecten te organiseren, maar dat sommige aanpakken vanwege de heersende machts-verhoudingen rond werk en leren veel moeilijker te realiseren zullen zijn dan andere meer voor de hand liggende strategieën.

Bij het **interpreteren van de conclusies** moet men er rekening mee houden dat zij betrekking hebben op leerprojecten op de werkvloer van organisaties, waarin uitvoerende medewerkers een centrale plaats innemen. Wellicht gaat een aantal inzichten eveneens op voor bv. managementontwikkelingsprojecten of organisatieleerprojecten, maar hierop was het onderzoek niet gericht.

Wat ook duidelijk moet zijn is dat het onderzoek geen uitspraken doet over het optreden van 'leren' in mentale zin. Leren is opgevat als het verbreden van het handelingsrepertoire van medewerkers door het organiseren van leerprojectactiviteiten. De vraag was eerder hoe verschillende leeractiviteiten tot een samenhangend geheel konden worden gevormd dan tot welke mentale leerprocessen dat bij deelnemers leidde.

Verder moet worden vermeld dat veel respondenten tijdens het onderzoek zich pas door het interview bewust werden van de opvattingen over leren die hun leerprojectactiviteiten sturen (wat overigens precies de bedoeling was van het interview). In veel leerprojecten zullen deze opvattingen impliciet blijven, maar in ieder geval bieden de uitkomsten van dit onderzoek actoren de mogelijkheid om ze expliciet te maken en daarmee hun activiteiten beter te sturen.

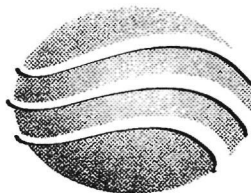
Een laatste kanttekening bij de conclusies is dat het gebruikte leernetwerkperspectief geen absolute normen verschaft voor 'goede' of 'effectieve' leerprojecten; de beoordelings-criteria hiervoor worden principieel aan de actoren zelf overgelaten. Het leernetwerkkader is eerder beschrijvend, verklarend en handelingsgericht dan normatief. Het wil actoren alternatieve kaders bieden om hun eigen handelen en reflecteren beter te sturen.

Verder onderzoek naar leerprojecten zou zich kunnen richten op het verder operationaliseren van de leerprojectmodellen in de richting van een gestandaardiseerd meetinstrumentarium, maar het is de vraag of dat verstandig is. Actorstrategieën zijn sterk contextafhankelijk en het lijkt dan ook zinvoller om middels handelingsonderzoek (Toulmin & Gustavsen, 1996; Hendry, 1996, Easterby-Smith, 1997) protocollen te ontwikkelen om actoren te helpen om de hier ontwikkelde modellen te gebruiken voor het vormgeven van hun eigen leerprojecten. Bij de begeleiding van een dergelijke aanpak is wellicht een interessante (nieuwe?) rol weggelegd voor opleiders.

Wat betreft de domeinen waarop verder onderzoek zich zou kunnen richten, het volgende. Ten eerste zouden meer leerprojecten van medewerkers op vbo/mbo-niveau moeten worden bestudeerd, omdat de focus in het huidige onderzoek sterk heeft gelegen op hbo- en wo-functies. Ten tweede verdienen de mogelijke leerprojectstrategieën van opleiders, met name in professionele arbeid, meer aandacht in het kader van de verdere professionalisering van opleidingskundigen. Ten derde zou kunnen worden onderzocht hoe leerprojecten samenhangen met het bestaande leer- en arbeidsnetwerk van een organisatie, een onderwerp dat met name voor inzicht in het verloop van organisatieveranderingen zeer relevant is. Zijn leerprojecten alleen geschikt voor enkelslag leren, of behoort dubbelslag leren eveneens tot de mogelijkheden? Ten slotte zou studie kunnen worden gemaakt van de effectiviteit van verschillende leerproject-typen en hoe die kan worden vastgesteld. Uit een eerste studie van Poell (1997) bleek dat elke actor zijn eigen criteria voor effectiviteit hanteert en met name leerprojecten die overeenstemmen met de eigen strategie als effectief beoordeelt. Hiermee zou men in evaluatie-onderzoek rekening moeten houden.

Curriculum Vitae

Rob Poell was born in Eindhoven, The Netherlands, on 4 February, 1968. He graduated from Anton van Duinkerkencollege (ongedeeld atheneum, Veldhoven) in 1986. He received a Bachelor's degree (with distinction) in pedagogical and andragogical sciences in 1987, and a Master's degree in educational sciences in 1992, both from the University of Nijmegen, The Netherlands (KUN). He worked on an innovation project aimed at developing a new KUN program in corporate education from 1989 until 1990. He was employed in the Education Center Nijmegen of the Digital Equipment Corporation from 1990 until 1991. He worked on a KUN development project intended to create an integrated program in vocational and corporate education from 1991 until 1993. He prepared his Ph.D. dissertation working as a research assistant in the KUN Education Department from 1993 until 1998. He acted as chairman of the KUN Research Assistants Council (NAiOO) from 1994 until 1995. From 1997, he has been acting as secretary for the Division of Vocational, Corporate, and Adult Education within the Dutch Educational Research Association (VOR-BBV). He is currently employed as a researcher and a teacher in the field of adult continuing education and human resources development in the KUN Education Department. From April until October, 1998, he is with the Division of Adult Continuing Education in the University of Sheffield, conducting a research project as a Marie Curie Fellow under the EU Training and Mobility of Researchers program.



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Dienst Innovatie & Advies (DIA) adviseert het management over “*professional development*” en verricht onderzoek ten behoeve van opleidingsbeleid. Onze medewerkers begeleiden docenten (individueel en in groepen) en organiseren deskundigheidsbevordering.

Uitgangspunten

- ✓ Leren en werken zijn nauw met elkaar verbonden.
- ✓ Maak beter gebruik van een mix van formele en informele leersituaties.
- ✓ Binnen een professionele organisatie is veel kennis en ervaring aanwezig.
- ✓ Betrek personeelsleden nauw bij de keuze wat geleerd moet worden en hoe.
- ✓ Wat geleerd moet worden is afhankelijk van een mix van omgevingsfactoren, schoolgebonden en persoonsgebonden factoren.

Werkzaamheden

- Onderzoek (diagnose en terugkoppeling).
- Adviseren bij scholingsbeleid.
- Begeleiden van docentennetwerken.
- Coaching, intervisie en supervisie.
- Organiseren van interne scholing en training.

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Gilde Opleidingen

Learning in work organizations transcends the disciplines of organization development, continuing professional development, corporate education, and human resources development.

This field is changing at a rapid pace. Learning becomes more and more important for the survival of present-day organizations. Other ways to organize learning than formal training arrangements are receiving increasing attention. This dissertation introduces the concept of work-related learning projects to shed light on two basic questions. First, how is work-related learning organized? Second, how are learning and work related?

A work-related learning project is organized by a group of employees who participate in a coherent set of activities centred around a work-related theme or problem, with a specific intention to learn and to improve work at the same time.

The activities can include various kinds of learning situations, both on and off-the-job, self-organized and facilitator-directed, action-based and reflection-based, group-focused and individual-oriented, externally and internally inspired, highly pre-structured and more open-ended.

This dissertation demonstrates the variety of ways in which learning projects are organized within several work types.

It presents multiple frames of reference for employees, managers, and training consultants to organize work-related learning projects.